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THE JOURNAL

OF

COMPARATIVE MEDICINE

AND

VETERINARY ARCHIVES.

EDITED BY

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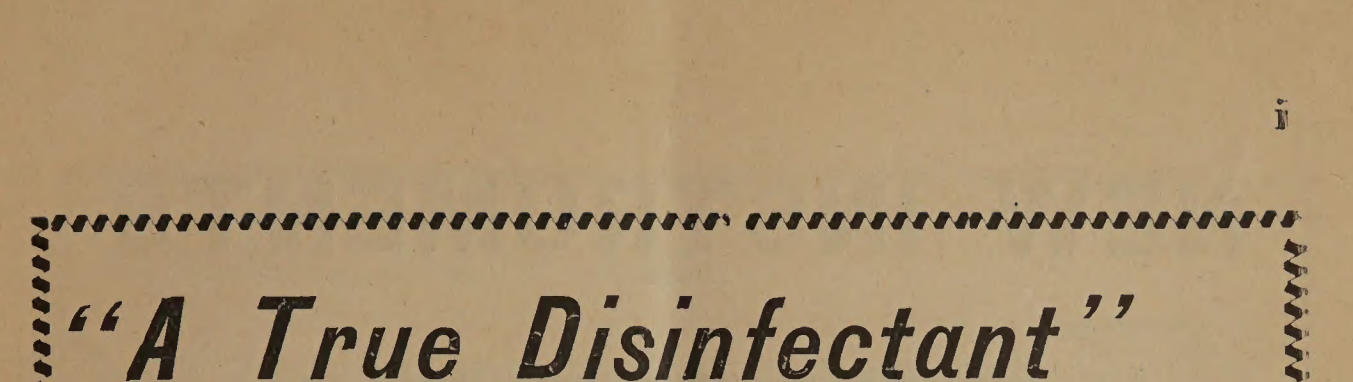

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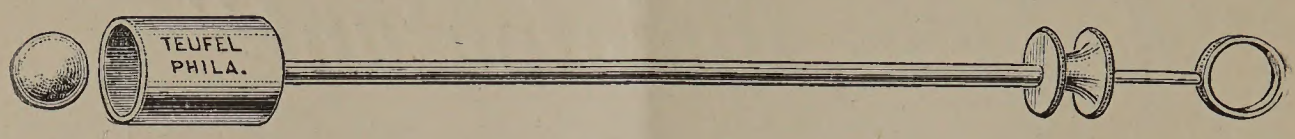

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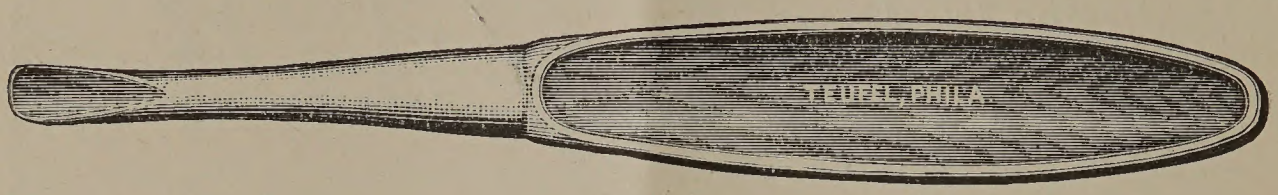

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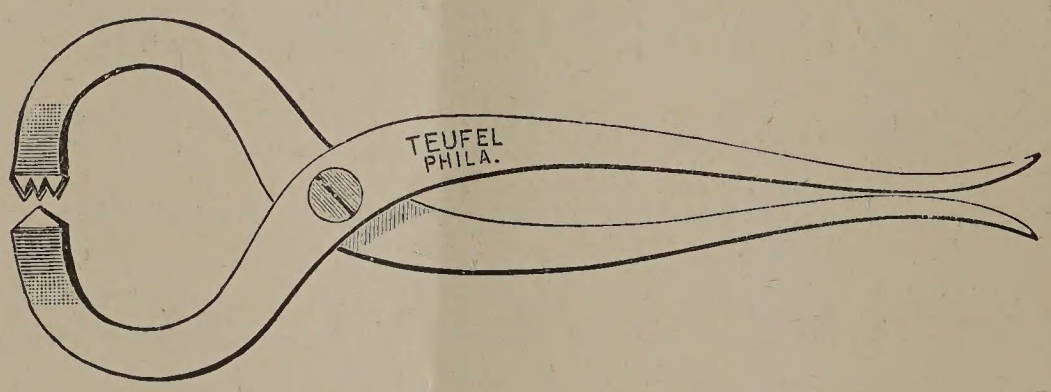

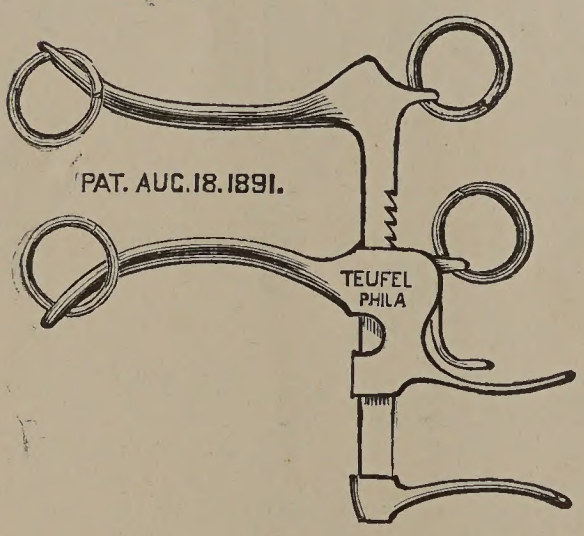

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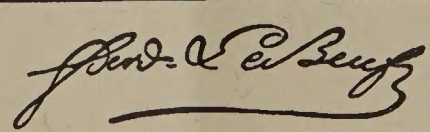

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VOL. XV. JANUARY, 1894. No. 1.

NEW REMEDIES IN VETERINARY MEDICINE.*

BY FRED. W. TURNER, PH.G., D.V.S.

The restless, progressive tendency of modern times is perhaps nowhere more conspicuous than in pharmacology, and especially in those drugs of a synthetical character, which have become one of the features of our time. The zeal and untiring energy of the old alchemists in their search for the philosopher's stone and the elixir of life are reproduced to-day in the eager quest of their scientific descendents for artificial alkaloids. Some of these new medical agents have won the favor of the medical profession, and have secured a permanent place in the pharmacopœias, while others are still on trial passing through their period of probation. The literature of substances produced at different times by various manufacturers and examined by pharmacologists and chemists in all parts of the civilized world is widely scattered and not easy to come at. For this and other reasons it has become exceedingly difficult, in fact almost an impossibility, for the busy medical practitioner to maintain his acquaintance with the properties and uses of therapeutical novelties continually brought to his notice in the scientific press of the country. Since the time when the modern chemist became fired with the ambition to win fame and wealth at one stroke by the synthesis of quinine, the number of remedies turned out yearly from the chemical laboratory has gone on steadily increasing, and if the original aim of the work is still unaccomplished—as the process of Grimmaux and Arnaud is but a partial solution of the problem—yet among the very considerable number of compounds produced, some have been found capable of

* Read before the German Veterinary Medical Association of New York and Vicinity.

replacing the natural alkaloid in many cases, while in others they seem to be even superior to it in the therapeutical activity, reliability or safety. A great number of those "new remedies" are of no use in veterinary practice in general, owing to their great cost and mode of administration, and I will only mention those which are known to have been applied successfully by veterinarians either in surgery or medicine.

ARISTOL.—A brownish red powder, insoluble in water and glycerine; contains about 46 per cent. of iodine; slightly soluble in alcohol, more so in ether. It is prepared by the decomposition of a solution of iodine in iodide of potash by an alcoholic solution of thymol. It is decomposed by light and heat. Aristol was introduced as a substitute for iodoform, having the advantage of being odorless. It may be employed in all cases where iodoform is indicated, and in the same manner, either as a powder, ointment or collodion.

CHLORALAMIDE.—Prepared by the interaction of chloral (not chloral hydrate) and formamide. It consists of lustrous colorless crystals with a somewhat bitter taste, soluble in 20 parts of water and 2 parts of alcohol. It was introduced as a substitute for chloral hydrate, being safer to give to patients suffering from any cardiac trouble, as there are no unpleasant or dangerous by or after effects. The dose is the same as in chloral hydrate, and its use is indicated wherever chloral is employed.

DITHIOSALICYLIC ACID—a substance prepared by heating equal molecular weights of salicylic acid and sulphur chloride to 150 degrees Celsius, forming a yellow resinous mass, which is dissolved in water containing soda, and the acid is precipitated by addition of hydrochloric acid. The acid itself has been hardly ever used in medicine, but the sodium salt is—sodium dithiosalicylate. This salt has been highly recommended in foot and mouth disease in cattle, being employed as lotion or compresses in $2\frac{1}{2}$ to 5 per cent. solution. Strikingly beneficial results are reported, and the drug seems worthy of further trial.

DIURETIN—prepared by the interaction of sodio-theobromine and sodium salicylate. It is claimed for this remedy, that if the stomach and intestines are kept in an alkaline condition, that it will prove of great benefit in cases of azoturia in doses of two drachms every four to six hours.

ETHYL BROMIDE or AETHER BROMATUS—a colorless, limpid, inflammable liquid with a sweet chloroformic odor and burning taste, is very largely used as a general anæsthetic in minor surgery. The

narcocis is produced in from one-half to one minute, and lasts only a few minutes, unless fresh quantities are administered.

EXALGINE—a substance occurring in beautiful needle-like crystals, has been highly praised for the treatment of chorea or St. Vitus' dance in dogs—to be given in doses from one to two grains three times daily.

ICHTHYOL—a product won by dry distillation from a bituminous mineral, found in Tyrol in Southern Europe, supposed to be derived principally from fish. Ichthyol is clear, thick brown liquid of a smoky odor and taste. Soluble in water, alcohol, ether and fats. It may be given internally or externally without the least danger. It contains about 15 per cent. of sulphur. The action of ichthyol when applied in medicine, depends chiefly upon three factors: First, its reducing properties; second, its vascular contractile effects; third, its antiseptic action. From this combination of properties, ichthyol has proved useful as an antiphlogistic, an alterative, an anodyne, resolvent and astringent. Its restraining influence upon the development of bacteria has repeatedly been proved and confirmed by practical experience, its peculiar virtues are largely ascribed to the proportion of sulphur it contains. It was first introduced by Dr. Unna as a panacea for skin diseases only, but since then the list of affections in which ichthyol has been successfully used has grown to a great extent. Internally, one ounce may be given in twenty-four hours.

LANOLIN—prepared from the crude wool fat by emulsification with hydrate or carbonate of the alkalies, forming a whitish substance, free from odor, insoluble in water, more soluble in alcohol, readily soluble in ether and benzine. Three factors have been of great importance in determining the permanent retention of the substance as a vehicle for the use of external medication to the skin: First, its resistance to the agents which produce rancidity; second, its property of taking up a great quantity of water without losing its ointment-like consistence; third, the completeness with which it is absorbed by the skin. To these must be added that lanolin is perfectly free from any irritating constituents. When lanolin is rubbed upon the skin it is rapidly taken up by the membrane, and any medicaments mixed with it are at the same time absorbed. The advantages of lanolin over other ointment bases are so marked that it has been almost exclusively and universally adopted for the application of the newer remedies in ointment form. Even acids, chloride of calcium, peroxide of hydrogen, sulphurous acids and other substances, of which heretofore ointments

could not be usefully prepared, may be successfully applied with lanolin. The sole practical objection to the use of lanolin for ointments containing only solid ingredients, is its stickiness, and this is readily overcome by mixing it with one-third of its weight of vaseline. This diluted vaseline meets all the requirements of a good ointment base, and its value has been confirmed by the experience of numerous medical authorities.

PIPERAZINE—is formed by the action of ammonia on ethylene bromide or chloride. It is readily soluble in water, and may be employed hypodermically. The most valuable chemical property of piperazine is its power of forming a readily soluble compound with uric acid. There seems to be a great future for this remedy, but it needs more investigation. As a solvent for uric acid and urate concretions, it is far superior to all known medicaments. A very marked relief is afforded by the remedy in the pruritus of the uric acid diathesis, due to the irritation of imperfect nitrogenous elimination. This drug ought to do the work in azoturia to perfection, for it will render soluble twelve times as much of uric acid deposits as any of the lithia salts.

It may be given in drachm doses, repeated at intervals from four to six hours. Being without caustic action upon mucous membrane. aqueous solutions of piperazine (2 to 4 per cent.) may be directly introduced into the bladder for the purpose of dissolving vesical stones.

SALOL—or phenyl salicylate, a preparation obtained by prolonged heating of salicylate of soda and phosphoric oxichloride, until reaction has taken place. It forms a white crystalline tasteless powder of transparent crystals, being insoluble in water. Salol was prepared and introduced into medicine after physiological examination, as the result of researches with the view of discovering a compound of salicylic acid which would be free from disadvantages of most salicylates.

Experiments have shown that salol possesses antiseptic, antipyretic and anti-rheumatic properties. At the same time it was found that the remedy, being insoluble, passes unabsorbed and unchanged through the stomach, and is only decomposed into salicylic acid and phenol compounds by the alkaline juices of the intestines. Due to this intestinal dissociation its particular virtues are largely due, as by its means local antisepsis becomes possible in such affections as acute diarrhœa, dysentery, or cholera. Eight grains of salol and three grains of bismuth-salicylate, given every three hours has been a favorite prescription for cases of Asiatic cholera.

THIOL—Prepared from brown-colored paraffine or gas oils, which are treated with sulphur at a high temperature, the unsaturated hydrocarbons which are attacked alone by the sulphur, are extracted by suitable solvents from admixture with saturated hydrocarbons ; by the action of concentrated sulphuric acid under artificial cooling, thiol is obtained. Liquid thiol is a thin brownish-black liquid, neutral, with a feeble bituminous odor, forms clear solutions with water, only partly soluble in alcohol and ether.

Thiol was introduced in the materia medica in 1888, as an additional remedy against the many forms of skin diseases which come under treatment. The literature on thiol contains reports of its successful use in eczema, acne, sycosis, erythema, erysipelas, lymphangitis, and general eczematous affections, also acute inflammatory processes of the skin and tissues, acute infiltrations of joints, œdema, contusions and subcutaneous hæmorrhage. Thiol may be applied as a powder, a 5 per cent. collodion made from the thiolum siccum, aqueous or glycerine solutions from 10 to 50 per cent. Very satisfactory results were also obtained by the treatment of wounds, whether superficial or penetrating, and of burns with dry thiol powder, used as a dusting powder.

According to numerous observations the effect of the powder was displayed in converting serum (the contents of the blisters caused by burns) into a solid more or less transparent, gelatinous mass, or scab, under which the process of healing went rapidly forward. Consideration of the action of thiol upon skin diseases and injuries outlined above shows that the principal physiological effects of its external application may be divided into four classes, namely:

1. A drying or desiccating property.
2. A muscular contractile property.
3. An antiseptic action.
4. A keroplastic or horn-forming tissue.

A careful examination of the evidence accumulated in medical literature, shows that thiol is a valuable enrichment to materia medica ; it brings into prominence certain facts in connection with its characters and actions. which have been followed by beneficial results, and not only so, but, in many cases, by results which the ordinary or routine remedies were powerless to bring about.

CREOLINE—is a by-product in the manufacture of carbolic acid. It is prepared from coal tar creosote, after the complete removal of carbolic acid, by the addition of resin and caustic soda. Creoline is a dark brown, syrupy, tar-like fluid, with a smoky odor similar

to that of tar, and an aromatic, subsequently burning taste. Dropped into water, it at first forms whitish clouds, which soon coalesce into a milky, uniform emulsion, slightly alkaline in reaction. The limit of perfect emulsion in water is reached at 2½ per cent. Creoline is an antiseptic and disinfectant of the first rank. According to the bacteriological investigations of Prof. von Esmarch, it acts decidedly more powerfully than carbolic acid on pus micrococci, on typhus bacilli, and on cholera bacilli. A 1 to 1000 solution kills the cholera bacilli in ten minutes; a 5 to 1000 solution in one minute, whereas it takes a 1 to 1000 solution of carbolic acid four days to do the same. The typhus bacilli are checked in their formation by a 1 to 1000 solution of creoline distinctly already in one hour. A 1 to 1000 solution of carbolic acid exerts no restricting influence on their formation even after 22 days. The pus bacilli are distinctly hindered in their growth in one hour and are killed in four days, while carbolic acid fails completely to produce any effect in four days. Creoline deserves to be urgently recommended on account of its power of destroying and checking the formation of bacteria; on account of its absolute freedom from poisonous properties, its innocuousness and its cheapness. Administered internally, creoline is non-poisonous, and is not caustic even in undiluted form. It diminishes putrefaction and the formation of gases in the intestinal tract even in small doses. In large doses even the feces lose their bad odor. Creoline has been used to some extent in veterinary practice in Europe, it is a very efficient and at the same time non-poisonous antiparasitic, much preferable to carbolic acid, tobacco, arsenic and mercurial preparations in the treatment of mange. A good embrocation is made by equal parts of creoline and green soap, adding from 3 to 10 per cent. of alcohol according to the severity of the disease, to be applied once a day. The same liniment will answer in the treatment of mange of sheep, followed by a creoline bath of 2½ per cent. in strength. Creoline baths are preferable to others on account of being non-poisonous, easily prepared and cheap, they do not injure the fleece as tobacco, arsenic and others always do. Large doses may be given to animals internally without producing any toxic effects or symptoms whatsoever. Creoline is a reliable and rapid deodorant in the often extremely offensive ulceration of somatitis in dogs. As a disinfectant for dog kennels and stables a half per cent. solution generally gives satisfaction; its volatility gives it an advantage over corrosive sublimate. In the open treatment of wounds of domestic animals the follow-

ing mixture has proved very serviceable: From 2½ to 5 parts of creoline to 100 parts of powdered boric acid are intimately rubbed together and used as a dressing powder to the wounds, which are previously cleaned by a 1 per cent. solution of creoline in water. In erysipelas of the legs of horses very good results have been obtained by rubbing the affected limbs once a day with a 5 per cent. alcoholic solution of creoline and then applying a linen bandage uniformly. Against worms in horses it is internally administered on an empty stomach, the dose given is 1½ oz. diluted in one quart of water. For killing lice or flees on domestic animals a 3 per cent. solution in water will give good results. Diphtheria in fowl has been successfully treated by painting the throat with a warm solution of one teaspoonful to a cup of water twice a day, and also giving of the same solution a teaspoonful, 2 a day, internally.

PYOKTANIN—English pus killer—is the name given to that group of colorific substances which are found most efficacious of all the pigments in regard to their bactericidal action. This group of pigments is so far represented in the materia medica by the following three varieties:

1. *Blue Pyoktanin*, the kind always meant and understood by the term "Pyoktanin," unless denominated to the contrary.

2. *Yellow Pyoktanin*, often preferred in ophthalmic and cutaneous diseases on account of its milder action, and

3. *Ethyl Pyoktanin*, the most permeant and powerful bactericide of the three.

Pyoktanin is derived from coal tar, an antiseptic, a true but harmless therapeutical disinfectant, an absolutely sure and yet perfectly safe bactericide, eminently adapted for permeation through animal tissues and fluids in the living body. It is devoid of any injurious effect on the human or animal economy or organism; certainly and utterly destructive of all bacteria or other micro-organisms absorbing it; rapidly diffusible in, and permeant of, both healthy and diseased animal tissues or fluids, and perfectly penetrant through the enveloping membranes and internal substance of all bacterial colonies harbored by them. These qualities of Pyoktanin make it not only the best antiseptic or germ arrestor now known to medical science, but also a practical medicinal disinfectant or germ destroyer in the living body. No other substance has so far been ascertained to possess the qualities above enumerated as pertaining to Pyoktanin, qualities essential to the efficacious and safe disinfection of all purulent, gangrenous, septic,

syphilitic, tubercular or other micro-parasitic morbid processes.

Dr. Mehrdorf reports of 1293 cases of foot and mouth disease of all conceivable degrees of severity and in all stages. Of these animals treated, 1261 were cows, 28 hogs, and 4 goats. In accordance with directions, a 1 to 100 solution of pyoktanin was first employed, then a 1 to 500 one ; but observations proved that still weaker solutions had just as favorable a result ; a 1 to 1000 solution of pyoktanin was subsequently employed exclusively. After cleaning the cutaneous tissues about the hoofs affected with the specific inflammation, cloven feet, balls and surrounding parts, they were painted twice daily with a 1 to 1000 solution. In a few exceptional cases, where a gangrenous mortification of the cutaneous structures had set in, a firm antiseptic dressing was applied, so as to immobilize the pad of oakum, saturated with pyoktanin solution, which was placed between the hoofs. To subdue the disease about the mouth, lips and nostrils, these parts were thoroughly brushed over with the solution twice a day. In very recent cases almost complete restoration often followed the application of pyoktanin in even 24 hours, but in most cases after 48 hours. The inflammation in the mouth made no progress, on the contrary, it generally disappeared entirely, and the mucous discharge ceased. In the later stages of the disease, when there are extensive excoriations and ulcers in the mucous membrane and skin of the affected parts, the success is not so prompt, but it is nevertheless a striking one. The advantages of pyoktanin in the treatment of foot and mouth disease are essentially as follows :

1.—Loss of animals can be almost entirely avoided by its timely and proper use.

2.—Nutrition of the affected animals is but very slightly or not at all impaired during the treatment.

3.—The loss of milk is only of a few days' duration, and of no consequence ; if the animals are properly fed, the lacteal secretions soon regain their former standard.

4.—The disease assumes a mild character and runs a favorable course.

5.—Working animals, such as oxen, can be used again in a short time.

Some authorities regard the intense staining power of pkoktanin as a drawback, but this property should be considered as a desideratum, because it enables the surgeon to see whether or not the remedy has been applied, and also how thoroughly. Pyoktanin is also adapted for the treatment of fresh wounds as

they originate under the surgeon's knife, as well as for old and neglected wounds of an angry nature. Common to all wounds treated with pyoktanin seems to be a very striking limitation of the secretion from the wound, no matter what the previous appearance and character of the secretions have been. In ulcers of the cornea in the course of distemper in dogs a 1 to 5000 solution of pyoktanin has been used with success, effecting a rapid and undisturbed cure. Favorable results may be obtained from the use of pyoktanin in purulent inflammations of the skin, so frequent in dogs, which owing to the continual irritation, only slight originally, soon develop into extensive suppurations, and need attention in their early stages. There is one restriction to its use, in white-haired animals, we must consider beforehand whether it is permissible to impart a blue color to the hair for some time.

OSTEO-POROSIS.

By G. J. Bowker, V.S.

In reading the discussions on osteo-porosis at the New York State Veterinary Medical Society, I noticed several of the veterinarians attribute it to lack of the salts of lime. It may be of interest to them to hear a little of my experience.

Last summer I was in North Dakota, near the Red River, which country is noted for its alkaline water. The water is so thoroughly impregnated with the salts of lime, that in the summer the shirts of the men working in the hot sun, drinking large quantities of water and perspiring freely, will be all white from the sediment left after the sweat has dried up. Wherever a little pool dries up the ground will be left white, as if salt had been sprinkled over it.

On one farm I saw three cases of osteo-porosis, all in yearlings that had run out all the time with practically no grain ; two of them were killed, the other was still alive when I left, but in such a bad condition that I don't think it could possibly have lived the summer out.

I advance no theory, only report those cases hoping they may be of some use to the veterinary profession *

Groton, N. Y.,
December 13th, 1893.

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* In two enzootics with which I have had to deal, osteo-porosis developed in limestone countries where the water was excessively hard, and irritating to man unaccustomed to it. —R. S. H., Ed.

CHRONIC BRIGHT'S DISEASE, WITH RENAL CALCULI, IN A BITCH.

By Andrew Darling, M.D., D.V.S.

The following notes of a case of chronic Bright's disease may prove of interest. This disease is evidently very rare in the canine species; at least, I have failed to find it mentioned in any available work on the diseases of the dog. An interesting feature of the case is the long existence of a gastric catarrh, shown by the vomiting and finally haematemesis, in this respect resembling the symptoms occasionally seen in the disease in the human family.

The patient was a water spaniel bitch, age six years, the property of a livery man. The history given was as follows: On the evening of March 28th, 1893, she was noticed to vomit food, for which nothing was done. The next morning she was found vomiting blood and evidently suffering a great deal; this continued at irregular intervals, and some time later she was found sitting in a puddle of water. A neighbor's dog having recently died with symptoms of poisoning, the same suspicion was entertained in this case. When seen at 11 A. M. she was very weak and barely able to drag herself along. This became more pronounced, until late in the afternoon she was unable to get up, but consciousness was retained as evinced by wagging her tail when spoken to. About 5 P. M. she became comatose, and died, after a few struggles, within an hour.

After the post-mortem the following additional facts were gathered from the stable help: She had always been a ravenous eater, getting three meals a day, principally of meat; appetite began to fail a few days before sickness. Until about three months ago had been in fat condition, but at that time began gradually to lose flesh; this was specially noticeable three weeks ago, after her return from the country, where she had been for a week to be "lined." Occasional vomiting of food had been noticed for many months; other important points were incontinence of urine and frequent micturition.

A rough post-mortem examination was made, the important points of which were as follows: The stomach and all the intestines, except lower part of colon and rectum, were deeply congested, and when opened found to contain a dark bloody mucus, but no ulceration. The left ventricle of heart was greatly hyper-

trophied; but there was no valvular disease. On removing a large amount of adipose tissue from around the kidneys, the great difference in size and their nodulated appearance was strikingly apparent. The left kidney weighed 1110 grains, and the right 661 grains. The capsule was firmly adherent in many places. On section they gave the peculiar grating sound due to the increased amount of fibrous tissue. A yellowish-colored calculus was found in the pelvis of each kidney, that from the left weighing 44 grains, and the right 21 grains. To the naked eye, chronic interstitial nephritis predominates, but changes indicating parenchymatous nephritis and fatty degeneration are also present. The specimens have been forwarded to Prof. Wesley Mills of McGill College, Montreal, for further examination.

TUBERCULIN IN PRACTICE.

By Cooper Curtice.

Should there be no other benefit derived from the use of tuberculin than the detection of tuberculous cows, humanity will still have derived inestimable benefit, from sanitary, scientific and economic standpoints.

So much has been published regarding the merit of this diagnostic agent to establish its use that the writer accepts the merit as an assured fact and enters into a rambling discussion of a part of his experience with it, more from the position of one who is endeavoring to eliminate the errors arising from its use rather than one assailing its virtues.

In suggesting that errors may arise from its use I wish first of all to assert that many a seeming error may not be an error at all. For instance: if an animal has a reaction over 106 degrees F. in a tuberculous herd and no cheesy tumors or tuberculous lesion is found on post mortem examination, I for one am going to refrain from pronouncing that animal as not affected when the tuberculin has pointed out and post mortem proven in the same herd that thirteen other head out of sixteen chosen for slaughter were positively tuberculous. If this be the case for a high temperature, at what lower temperature shall we make the dividing line between suspected and not suspected cattle on our post-mortem examinations?

The tuberculin test as used in our New York State Board of

Health work, consists in injecting under the cow's skin from four to eight drops of Tibbertz' *Tuberculium Kochii*, diluted with a half of 1 per cent. carbolic solution to a 10 per cent. solution. At the time of injection, about nine o'clock in the evening, the first temperature is taken. This is done as a matter of convenience; it sometimes enabling us to arrive at a closer conclusion regarding one or another animal. It may be more scientific to take temperatures for the twenty-four hours preceding, but being averse to protracting the expense of examination and the attendant inconveniences to the cattle and dairymen, we have reduced all work to a minimum. So far I am not yet convinced that a longer examination would be more thorough or less prolific of error. On the contrary, I believe the shorter time to be the better. In the following morning, temperatures are taken at intervals of two to three hours, usually two and one-half hours, commencing at seven or eight o'clock, or ten to eleven hours after the injection. This examination is continued to three or four o'clock, or even five, in the afternoon, if the observer chooses. I have found, however, that the earlier time furnishes me the necessary data. After the taking of the second temperature in tuberculous herds, the work is lessened by no longer taking the temperature of those with positive reaction, say 106–108 degrees, for really but one such temperature is necessary to condemn the animal. The afternoon work concerns itself with the uninfected and the incipient cases, continued examination being necessary to ascertain that they have no reactionary fever. So far I find that my diagnoses are more complicated by the late work in the afternoon, and post-mortems show that the morning and early afternoon work is the more reliable.

There are two practical points in examinations that may assist beginners; of course the experienced have their own methods preferable to all others. In injecting, being right-handed, I stand on the right ide of the cow, by her shoulder. By reaching over to the left side I pinch up the skin upon the left shoulder just behind the scapular spine, and thrust the hypodermic needle with syringe attached into the fold, near my thumb, with my right. The syringe is held in the hollow of my hand, the needle between my fingers and thumb. With my elbows and body I get such a purchase on the cow's shoulders that when they move I move with them and so avoid mishap. They may either move toward me, i. e., away from the needle, or "buck." Fortunately, few do the latter. A few have gone to their knees. Usually with sharp needles there is no movement. I make no attempt at disinfection of hides, but use great care with needles, syringe, etc.

In taking anal temperatures I use four thermometers. Five have been tried, but the extra one causes more loss and does not seem to be much help. I find that after waiting two and one-half minutes for the first to register, it requires from two and one-half to three minutes to get through the set. As soon as a temperature is read the thermometer is inserted into the next animal. Needless to say that one has to be absolutely sure that the mercury is shaken down from the last reading or else one must try again. In taking these anal temperatures one also has to be on the watch against the cattle ejecting them on to the floor. This is more liable to occur toward noon or in the afternoon. It is well to have extra thermometers to replace broken ones. In summer work the cattle were permitted to go afield after injecting, keeping them up only during the following day. The cattle are not allowed to water until after the test is through.

The thoroughness with which tuberculous cattle may be selected from a given herd depends on the tuberculin, on the cattle and their conflicting conditions, and on the inspector.

We presuppose that two of these factors, the tuberculin and the inspector, are known and constant; that the presence or absence of tuberculosis is the unknown quantity. There is some reason for supposing, however, that in the course of our tests with various bottles of tuberculin there is a difference in intensity of action even in the Tibbertz' material. For instance, I had supposed until lately that reaction of 102.7 or 102.8 degrees F. indicated a tuberculous patient in herds with marked cases. This was pointed out by marked success in picking out the well cattle or cattle with no reaction in a number of herds, as proven by slaughter of all. Lately, however, I have tried herds and got low fever temperatures to above 104 degrees without any tuberculous lesions being found. This indicates that for some reason there is a reaction produced by tuberculin different from that in earlier herds.

The dose of 0.25 cubic centimetres is the one oftenest used by us. 0.3 c. c. have been used with, I believe, more pronounced results. Larger doses are now being tried.

In the succeeding paragraphs it will be understood that for our purposes the intensity of the tuberculin is regarded as a constant quantity, and the unknown differences supposed to exist in the cow. Tuberculin seems to fail often in some of the worst cases, or cases which one can diagnose as tuberculous by physical inspection. Cow 87, whose temperature ranged between 102 degrees be-

fore injection and 108.1 degrees the morning after, was one of the bad ones in the herd. Cow 216, 102 degrees evening temperature and 100.8 degrees highest morning temperature, was the worst in her herd. Cow 261, evening temperature 104.2 degrees, highest morning 104.8 degrees, was so bad that she could not be driven from the farm to place of slaughter of the herd. Cows 306, evening temperature 103.8 degrees, highest morning temperature of 102 degrees, and No. 311, 103.2 degrees evening, 103.6 degrees morning, were typical wasters and turned aside to die. A larger quantity of tuberculin might have been necessary to create the required fever in these animals, but how shall we judge of the quantity required to give each? If we know they are tuberculous why do we try them, and if not why should we vary the amount given?

The highest temperature that I find is one of 108 degrees, in 348, a badly diseased two-year-old registered Guernsey bull. In this the external glands and the testicles were tuberculous, carrying nodes an inch across. Cattle with the higher temperatures appear to be in all stages of the disease.

The fine work of the inspector is demanded in judging of the low temperature; those ranging from 102.5 deg. to 105 deg., as previously stated. I have until lately supposed that reactions between these might be indicative of disease, and they may have been, but recent herds tried and selected on the same basis indicate slight reaction from other causes.

Cows 643, 104.4 deg.; 644, 105.4 deg.; 645, 107.6 deg.; 658, 106.2 deg.; and 655, 102.8 deg., were the only tuberculous animals, (as determined by the finding of cheesy tumors) out of seventeen selected. Other temperatures ranged between 105 deg. and 102.7 deg.

Cows 667, 107.2 deg.; 675, 107.8 deg.; 677, 107.4 deg.; and 670, 102.4 deg. were the only tuberculous animals out of thirteen head selected. Other temperatures varied between 102.4 deg. and 103.8 deg.

On the contrary, in five other herds—Adams, Dart, Birdsall Scott and Shaw—any temperatures above 102.5 deg. or 102.7 deg. belonged to a tuberculous animal, and the only apparently sound cattle had lower temperature.

Frequently tuberculous animals, with but little disease and indicating little or no reaction with tuberculin, have come to notice, thus: 655, 102.8 deg.; 670, 102.4 deg.; 52, 102.4 deg.; 58, 102.6 deg.; 253, 101.7 deg.; 242, 102.1 deg., and others.

Cases of considerable rise, without the tubercles being found

on post-mortem examination, are altogether too frequent, thus: 673, 106.4 deg.; 648, 105 deg.; 571, 106.1 deg.; No. —, 104.6 deg. and others.

Other diseases, as abscesses and bronchitis, complicate matters, but do not begin to enter into the diagnosis like high temperature in apparently sound cattle. Bronchitis and pneumonia of scattered lobes seem to create no markedly high rise in temperature. Even advanced cases of broncho-pneumonia rarely give any reaction.

After the character and intensity of the tuberculin, the most important element to be taken into consideration is the presence of a fœtus in the last stages of gestation. In heifers and young cows the attendant fever or the fever obtained the next day after injection is frequently two or even three degrees. To eliminate this source of error one has to learn, as nearly as possible, the age of the fœtus, and base judgments upon it.

Hitherto when deciding upon the presence of tuberculous cattle in a herd, if there were no temperatures over 103.5 deg. or 104 deg., and there was no history of tuberculosis as determined by the previous killing or death of a cow, I have felt quite safe in passing them as free. If, however, high reactions indicated the presence of the disease in some, I have felt justified in taking cattle with quite low temperatures, and until recently have not been disappointed. In but few instances have I been assured that all the tuberculous animals of a herd had been selected and in those the herd was condemned. These herds have fully demonstrated, however, that not more than a single incipient would be left. At present the only way apparent to rout out the disease seems to be to kill those known to be tuberculous, quarantine others and retest at some remote date. The quarantine need extend over the cattle only in so far as exchange is concerned, the butter and milk being allowed as before. If the owner decided to beef one or more it should be his privilege, as the menace from that one at least would be removed. The proof of slaughter should be exacted.

The problems of selecting tuberculous animals by the use of tuberculin and of selecting all the tuberculous animals of a herd, are vastly different in execution. The first can be done almost ninety-nine times out of a hundred. The latter may involve many innocent animals. With the perfection of tuberculin itself, of the methods in using it and of our skill in making deductions from the facts, we shall be able to clean a herd of this disease in the majority of trials, and this act is of such importance to public hygiene

and the dairy industry that it easily places tuberculin among the foremost of specifics.

As yet it seems to me that there are no data upon which the actual percentage of tuberculous cattle to the whole number can be based.

The percentage of tuberculous animals in a given herd may be high, anywhere from 30 per cent. to 100 per cent., but tuberculous herds do not form a large proportion of our dairies. The percentum found to obtain in the slaughter of cows in public abattoirs, viz., of 2 per cent. to 3 per cent., seems to me to be a very fair estimate. Herd to herd inspection of last winter, by physical diagnosis, yielded to me ½ of 1 per cent. The slaughter of an entire herd on the supposition that most cattle in it were diseased, raised this percentage, but not above the previous estimate.

With tuberculin and plenty of inspectors, it is going to be a serious task to eradicate the 2 per cent. tuberculous cattle from the herds of New York; but it is feasible and promises the best of results, and certainty of fulfilment. Without tuberculin scarcely the badly diseased, or those selected for death in the near future, can be chosen.

To prosecute hygienic work with tuberculous cattle successfully, we must use tuberculin; especially on herds in which tuberculosis is suspected or known to exist. Until the majority of these are cleaned up, I can not counsel its use, save, perhaps, in weeding herds whose owners must guarantee the offspring and others as free of this disease. Until we are surer of our deduction regarding reactions, had we not better handle their herds with great caution, enforcing quarantine until a future test shall have decided upon disease in suspects, rather than indiscriminately slaughter them? Quarantine of suspects need involve no expense or loss other than that entailed by loss of immediate sale, of individual cattle, the owner being permitted in all other ways to use the products as before, and not, unless he prefers, being required to separate them from others.

If this article serves to point out wherein we may err in the use of tuberculin, and adds proof of faith in its utility in State inspection, its purpose will be fulfilled.

Moravia, N. Y.

THE DOG IN HUMAN SOCIETY: HIS GREAT FAULTS, AND THE REMEDY.

By Alexander Hadden, M.D., New York City.

The dog has been the associate and faithful servant of mankind for an indefinite period of time. His companionship can be traced quite clearly throughout the present geological period and with very conclusive evidences into the neolithic or newer sandstone. His bones have not uncommonly been found lying in company with the remains of the man of that pre-historic period.

By the people of all nations and tribes of which there are any existing history and traditions, with only a few exceptions, he has been cherished as an intimate and estimable member of their households. The followers of Zoroaster were taught to believe him to be a creation of their god Ormuzd. In their mythology he has been classed as the most faithful of creatures, and in evidence of this, the star looked upon as the sentinel and scout among the heavenly bodies, was called Sura or dog. The old Roman sportsmen regarded him as an indispensable to their circle, and as a brute companion of wonderful intelligence, activity and courage. The Greeks of immortal history cherished him, doubtless as much as we do now, as a loving pet, as a trusty guardian of person and property, and a servant of deep and never ending affections. Through Homer's Iliad they have paid a lasting tribute of their esteem to his unchanging faithfulness, in the account there given of the dog Argus and his master Ulysses.

The ancient Assyrians, too, we have reason to believe, appreciated some of his natural qualities, for they have left unmistakable evidences of it in imperishable stone. Sir H. Rawlinson says, "On the tomb of the son of Esar-Haddon, King of Assyria, is carved the form of an enormous mastiff, in the attitude of a guardian."

The ancient Egyptians, it is well authenticated, looked upon the natural instincts of the dog with superstitious reverence, did him homage, and named for him a star which they associate with the fertilizing of their fields. Their idol also, which represented sagacity and fidelity, had the head of a dog and the body of a man. Some of the Ethiopian tribes have been so marvellously

impressed with his sagacity, that they have venerated him as superhuman, and others of them have thought him so superior to man in his noble qualities, that they have made him king over them. The Mohammedans, Eastern Jews and Hindoos only have ostracized him as unclean and unfit to abide in the habitations of men.

Whence this prejudice has arisen is not apparent. It cannot have been from the cry of hydrophobia, for that disease is unknown in all their countries. They tolerate him only as a public scavenger, and do not allow him to do even this humble service by day. The North American Indian regards him differently from those just mentioned. He cherishes him as a loving companion, a trusty and vigilant guard to his wigwam, and as a useful partner in his hunt for game. His attachments are so interwoven with the life of his dog that he earnestly hopes and fervently prays that the Great Spirit that rules over the living and the dead will not separate him from his boon companion when he goes to his blissful hereafter.

This sentiment was not given to these children of nature by civilization, but was found with them, and among the traditions of all their tribes when they were first discovered.

The esteem in which this creature is held by the enlightened people of our own times is best determined by what can be found in the repositories of history, legend and art, together with that which passes under our own observation. That he has been reclaimed by domestication from a wild state seems to be admitted by all writers on Natural History. This conquest is called by Baron Cuvier, the great French naturalist, the completest, most singular and most useful ever made by man. William Youatt, the celebrated writer on domestic animals, in his article on the dog, says that "he is next to the human being in the scale of intelligence, and was evidently designed to be the companion of man." The same author illustrates the inherent and singular attachments of this creature to the human family, as follows: "We exact the services of other animals; their tasks being performed, we dismiss them to their accustomed food and rest; but several varieties of the dog follow us to our homes, connect themselves with many of our pleasures and sports, and guard our sleeping hours." The same writer further remarks "that he is the only animal that is capable of disinterested affection; that he seeks to be the companion of man from spontaneous impulses alone, and that his whole aim in life seems to be to please his master, and be allowed to love and serve him."

Poets and novelists have vied with each other in making him the subject of the most soul-stirring melodies, and of stories and legends of the loftiest and tenderest sentiments. Naturalists and historians have both conclusively shown by many pages of well-authenticated facts that he has been the devoted comrade of man through all ages, periods and conditions of his existence, and is likely to be to the end of time, by reason of his varied qualities of instinct. natural endowments and incomparable fidelity. Artists of all ages, too, have joined in the plaudits of this noble and loving brute, and have reflected successfully on the canvas the sentiment that has been expressed in words, and all his peculiar attributes by which he serves and pleases mankind.

Sir Edwin Landseer has left for himself an imperishable renown in his truthful representation of this creature, by means of his brush, in his different relations to his master man. He has, by his unerring pencil, traced him in all his moral attitudes and honest longings, and has thereby preserved in form, deep and sublime emotions of joy and sorrow, on which our eyes may enjoy a never-ending feast. He has shown him to be the same faithful sentinel at the door of the peasant's cot as at that of the palace of royalty. His portrait of the noble mastiff of St. Bernard on his humane search for exhausted travellers in Alpine snowdrifts, and his masterly sketches of him as the shepherd's guard and first lieutenant, in the care and defense of flocks, and of his fatal grief on the grave of his late master, have never failed to impress the thoughtful mind that he is our Creator's special gift to man.

Sir Walter Scott, a highly distinguished student of the dog, says "he has a nature noble and incapable of deceit; that he has a share of man's intelligence, but no share of man's falsehood; and he has made historic, both in prose and verse, many of his wonderful traits and instincts." His tale in the poem Helvellyn has impressed the minds and hearts of the lovers of nature, that fidelity which follows beyond death is not exclusively human. His fondness and admiration for the dog appears very prominently in many of his writings, both prose and verse, and some of them, indeed, would be deprived of their life and spirit, were his brute companion left out. Mr. Hallam's sketch of Sir Walter at home has his dogs included, and in a short poem relating to it says :

"It was a comfort, too, to see
Those dogs that from him ne'er would rove,
And always eye him reverently
With glances of depending love."

Lord Byron's inscription on the tombstone of his Newfoundland dog gives us an insight into the profound love he bore his noble canine companion. He closes this short poetic effusion as follows:

> "Ye who perchance behold this simple urn,
> Pass on, it honors none you wish to mourn;
> To mark a friend's remains these stones arise;
> I never knew but one, and here he lies."

Cowper in his beautiful lines on the dog and the water-lily, Elizabeth Barrett Browning to Flush, my dog, Dr. Moir to his dying spaniel, J. G. Holland to his dog Blanco, and others of no less repute which I might quote, have given poetic tributes, full of admiration, tender sentiments and requited love, to their dear dumb friends and devoted servants. Both Washington Irving and Charles Dickens are said to have delighted in dogs, and to have treasured up every well-authenticated story of their wonderful instincts. Ouida, the French novelist, contributes an article to the *North American Review* on the much-despised Pomeranian or Spitz dog, and dwells especially on his peculiarities as a breed which is,—the indivisibility of his affections. It seems from her study of him that it is impossible for him to have two human beings whom he can equally love. She illustrates this by the one she owned. Others might cherish, feed—yes, even nurse, but she alone remained the whole object of his love and delight.

From the foregoing references or examples alone we might reasonably infer that the dog and human society are yet to remain inseparable, and this conclusion is based chiefly on admiration and natural attachments. But when we add to these the indispensable qualities of his instincts to many of the sports, pleasures, uses and necessities of mankind, we may positively rely upon it that he will never be eliminated from it.

One who is not an enthusiastic hunter cannot comprehend, or only in a very small way, the intrinsic value of well-trained dogs to sportsmen in their pursuit of wild fowl or animals. We can only estimate it, in part, by the fact that we cannot purchase one of them from his master for any amount of coin, unless he is a trader in these creatures. Nor can we wonder at this real attachment, when we see him quietly and fearlessly running before the gun, flushing birds, and when they are brought down, gathering them from the water and jungles without a single loss, and laying them at his master's feet in triumph. We might in some degree wonder, should we only view him connected with the more vigorous, per-

haps we might say cruel sports, such as the pursuit of the fox, the stag, the wild boar or bear.

His close relations to the shepherd and general herdsman are well understood, and his indispensable services easily recognized. It is quite impossible for them to control their flocks and herds without him. Indeed these great industries both in this country and elsewhere have grown to their enormous proportions through the training into use the matchless instincts of this animal.

It has been authoritatively stated that one good, well-trained collie is worth to the shepherd a hundred men, and this, I think, will not be gainsaid, when his varied services are considered. He is the trusty sentinel who remains on duty day and night to guard the flocks against birds and beasts of prey, and becomes so well acquainted with each individual of the flock that he will gather them together when scattered, not missing one, and even separating them from the strangers, and will drive them from place to place when required with more than human care and intelligence.

Scotch history and legends are full of well-authenticated accounts of the valuable services these sagacious creatures render their master. Not only in the above mentioned instances, but also in other very perplexing and trying ordeals, such as when fogs suddenly fall upon the mountain pasture ranges, so dense that a sound misleads and the face of the sun is darkened at midday, and the shepherd is unable to discern his sheep further than a few feet distant, his dog will guard them with more than human vigilance, and keep them from scattering till the fog rises and passes away. When heavy snow storms overtake them and they fall exhausted and are banked over, he will find and save them from perishing.

These are only some of the eminent services in this domain, that this humble and loving brute renders to his master, man, and makes him indispensable to this industry and one with which he must always be identified. In the light of these services I hardly need to turn attention to anything else to establish the great importance of this animal to human society. Perhaps it may be well to add how lonely and melancholy would the poor man's home in the country be, often in a wild out of the way place, without his terrier cur which protects it by day and night, and warns off by well-expressed notices all intruders, whether they be men or animals, thus securing more safety to the life and property of the family than a paid servant. I might go on indefinitely giving instances of the pleasure and uses he affords to man, but the fore-

going must suffice. Such instincts as this animal posessess, so pure and useful, have retained, and always will, the admiration and appreciation of the great part of the human family. Notwithstanding there is a mutual affection based upon natural laws existing between man and the dog, and well recognized services rendered by him to his master, there is as yet no domestic animal against which so much prejudice has been shown, or more unreasonable legislation been enacted and greater reproach been hurled. On the part of many, both in city and country, every effort has been made to ostracize him, but each attempt has signally failed. The dwelling and business places still retain their sentinels, the monks their mastiffs, the amateurs their pets, the sportsmen their companions, and the herdsmen their faithful and intelligent servants of this despised family of brutes.

The cry of hydrophobia against him, too, has frequently rent the air, and the economist has, by carefully compiled statistics, shown unwarrantable extravagance in maintaining this animal which is so very destructive to property and dangerous to life. Let us examine into the facts concerning hydrophobia and see if the causes of alarm are sufficient and worthy. This can only be properly shown by statistics, of which I think I have an abundance at hand.

In the whole United States during the year ending June 30, 1870, there were 333,169 deaths from all causes. Of these 63 only were charged to hydrophobia, and that we are to bear in mind was in a population of over 40,000,000. In the city of New York, during the year 1874, there were 28,729 deaths from all causes, 5 only from hydrophobia. During the year 1875, in New York City there were 30,709 deaths from all causes, and not any charged to hydrophobia. During the year 1876, in the same city, 29,132 deaths from all causes, and only 5 attributed to hydrophobia, and this in a population of at least 1,000,000. During the years 1872–73–74, in the city of Brooklyn, with a population of at least 500,000, there were 13 cases of hydrophobia. Reports of the Department of Vital Statistics of New York City for the twenty-six years ending Dec. 31, 1891, give the following: 839,065 deaths from all causes; of these 53 only from hydrophobia, and of this small number all were not chargeable to the dog. During the twenty-five years ending 1872, there were in all England and Wales 1,122,072 deaths from all causes; of these, 373 were from hydrophobia. In the city of London, during the year 1874, there were only 9 deaths from hydrophobia, the population being 3,000,000.

These cases, it must be borne in mind, reported in different places and at different times, were not all chargeable to the dog, but the rats, cats and foxes played their part as well. These figures present a remarkable contrast to the degree of excitement from which whole communities suffer quite frequently from fear of dogs and hydrophobia.

I do not propose to deride the fear of this fatal poison, but I do wonder that this poison receives so much attention when far more fatal and destructive ones are even cherished in our midst. Indeed, I will say, if the proportion of deaths from hydrophobia were much greater I would wonder, for the poison that the poor sick animal implants in the human system in a moment of uncontrollable frenzy, is merciful, when compared with those which society is inflicting upon itself daily, and to which all are sensible. Where there is one victim to the poison of rabies there are thousands to many other preventable causes, such as, to overcrowded tenement houses, unsanitary school buildings, churches, street cars, and to intoxicating draughts. The poison of the former terminates with a single victim, while the latter flows into the veins of the succeeding generation.

Surely these statistical reports should convince reasonable minds that the persecution now carried on against this noble, sensitive and loving brute for this cause by local law-makers urged on by foolish fears, is almost senseless and extremely cruel

The agricultural reports are not so favorable to this animal The United States Commissioner of Agriculture gives in his report of 1865 a shocking statement of the ravages of this brute among the flocks. He gives the returns from 373 counties of 23 States of the number of sheep killed by him during the year, as follows: 77,854, and estimates the whole number killed in the United States during the same period to be about 500,000, and the loss to the raisers of sheep to be about $2,000,000.

Since 1865 no reports of these facts have been made, but there are ample reasons to believe that the ravages are no less. This offence is about the only one that can be charged against this animal. This propensity seems to be the sole remaining vice of his wild state, from which he has been no doubt to this degree, reclaimed, by domestication. He is never stimulated to this act by hunger, but does it in wild mischief.

The male dog chiefly is given to this evil, the female rarely unless in the wild state. It is also a remarkable fact that this animal never goes alone on these raids, always with a companion

dog, sometimes in packs. Although one only may be in the chase, the other is near. It is also remarkable that these raids are preceded by intimate association of neighboring dogs, and it is undoubtedly out of these associations the mischief springs.

Dr. W. A. Conklin, director of the Central Park Zoological Garden, has stated to me that the raids on the sheep folds, deer enclosures, and on the swans, were always by the male dogs in packs, and in these there would often be as many as a dozen. He never knew of one dog raiding alone, and also, that in the large number that had been shot in these depredations he was quite sure that no female was found. To break up the disposition of these animals to associate, and especially the preliminary association, to which referenbe has been made, should be our aim, and this is most effectually accomplished by castration, to which they should be subjected when young, about one year of age (the female or bitch should be spayed when a pup so as to lessen the danger in the operation). By this he is so changed that his attachments are for his home and for his master only, and not for those of his kind. I suggested and had this put into practice about four years ago. The animals were mongrels of good breeds, yet have made very fine and handsome watch dogs, and have no disposition to run with their kind.

One of my friends who owns a well-bred and trained shepherd dog, which he raised, when he was about a year old, had him castrated by my advice, for the purpose of breaking up his commencing tendencies to run with neighboring dogs. He reports that the operation was in every way a decided success and that his dog stays at home and is as good a herd and farm dog as one could desire. He is now four years old.

Dr. Chas. Burden, a prominent veterinary surgeon of this city, stated to me a short time ago that one of the best terriers for rats he ever knew had been castrated when quite young.

I have like testimony from others, which I might quote if necessary, but as they would illustrate the same fact, I will not proceed.

It is my implicit belief from the observation I have personally made and from evidences gathered from others on this subject, that, if no dogs were allowed to run at large except those which were emasculated, the fears and facts of hydrophobia among our people would be greatly lessened and the ravages on the flocks of sheep would cease entirely.

From the facts herein stated we may reasonably infer that the long association of the dog with human society renders the probability of his ever being cast out highly improbable.

That there is a mutual love existing between mankind and this animal is an incontrovertible fact; that he has become a necessity to many of the pleasures and vocations of the human family no one can reasonably deny. That he sometimes communicates a very fatal disease to human beings and is frequently the destroyer of valuable property are facts supported by statistics; that it is our duty to prevent this destruction of life and property, and yet retain the animal in all his usefulness should be unquestionable; that castration is a step in the right direction will be doubtless proven to be effectual by fair trial. The effect of this operation upon the bull, the horse, hog and sheep is good, and that it increases their docility, usefulness, and if intended for food, their good qualities, is indisputable, if done when of proper age, but if delayed until the animal becomes old and confirmed in his habits it certainly does not produce the desired change, but rather a tendency to become fat and lazy. It has got other advantages. He becomes, for reasons that I need not state, a less objectionable pet, far superior to the bitch, also a more reliable watch dog, as he is not likely to be decoyed away from premises he is guarding by any other dog, a stratagem that thieves and burglars often use. He will, like the castrated of other domestic animals, live to be much older, and retain his usefulness for a longer period of time. That he would be less likely to develop hydrophobia is probable, for he would be less exposed to innoculation by his association with other dogs. Castration lessens, in a marked degree, also many of his most disagreeable habits, and in no respect detracts from the useful and valuable qualities. Indeed, if any change is effected, they are essentially improved. There is a law to prevent stallions, bulls and the like from running at large. Let it be extended to the dog.

Since the reading of this paper, and the publication of the full extract in the *Forest and Stream*, June 6, 1878, many letters and notes have fallen into my hands on the subject, among them the following one, published in the *Rural New Yorker*, October 2, 1878, which I will here report:

"Darwin tells us in his researches into natural history that in Banda Oriental, South America, it is a common thing to see flocks of sheep, guarded by one or two dogs, at a distance of some miles from any house or man. The method of canine education thus

practiced consists in separating the puppy, while very young, from its mother, and in accustoming it to its future companions. A ewe is held three or four times a day for the little thing to suck, and a nest of wool is made for it in the sheep pen. At no time is it allowed to associate with other dogs or with the children of the family. The puppy is moreover generally castrated, so that when grown up it can scarcely have any feeling in common with any of its kind. From this education it has no wish to leave the flocks, and just as another dog will defend his master, man, so will this, the sheep. On the approach of strangers the dog immediately advances barking, and the sheep all cluster in his rear as if around the oldest ram. These dogs come to the house daily for food, and when they get it skulk away as if ashamed of themselves. They can readily be taught to bring the flocks home at a certain hour in the evening. Away from the flock they seem timid with regard to other dogs, but when with their charge, neither domestic nor wild dogs dare venture to attack them."

A note from W. E. Hudson, in the *Forest and Stream*, July, 1878, calls in question my statement that bitches are not given to the vice of sheep killing. He reports that he owned two, both of which would kill sheep when the opportunity offered. Mr. J. E. writes to the *Forest and Stream*, August 1, 1878, that he owned a setter bitch that would also kill sheep These are the only instances that have come to my knowledge, and they are sufficient to shake my statement somewhat. I think, however, the vice is much less common than in the dog. His recommendation to emasculate the bitch as well as the dog I approve of, and believe the operation will greatly add to her qualities as a house pet. I have had many letters highly approving of the operation, but not one charging the castrated dog with the vice of killing sheep. I have a letter from Arthur Stevenson, of Wayne Co., Pa., who stated that he has castrated many dogs and has never known any of them to kill sheep, and thinks the animal materially improved.

RUPTURED BLADDER.

By Leon N. Reefer, V.M.D.

On the 21st of February, 1893, I was called to attend an ox, the property of Wm. Dixon, at Rosby's Rock, Marshall Co., West Virginia. I found a fine big animal weighing about 1900 and in apparently good condition, but very weak; he had the dejected look of an animal suffering from some chronic trouble, but with no acute symptoms whatever.

Upon inquiry I found that the beast had been suffering for twenty-two days and that in that period he had only urinated freely but once, and this time was after he had been suffering great pain for two days, immediately after being taken with his sickness. He had eaten somewhat up to the time I had been called, but now was standing in a very tottering manner, and apparently in a dying condition. My diagnosis was, that the animal was suffering with urinary trouble, but with such a history I was dumbfounded. On rectal examination of the bladder I found it in a flabby condition, containing no urine, and a rupture in its walls. During this examination the presence of fluid in the abdominal cavity was readily detected, and the presence of this is what accounted for his fine appearance, as it filled him out and made him look in very good condition. While we were at our supper the animal died, and I immediately proposed a post-mortem examination. After removing the skin and placing him on his back, I made an opening near the edges of the lumbar spinous processes, and by means of a two-gallon bucket I was enabled to measure the contents of this cavity. It contained seventy-two gallons of a clear transparent liquid with the decided odor of urine, and this quantity would be somewhat increased had we the opportunity of collecting it in total. The bladder was in its normal position, but its walls were shrivelled up and a rupture over two inches in length was found in the inferior surface. The lining membrane was thickened and nodulated, and the edges of the wound were indurated. The rupture had been caused by a calculi lodging in the urethral canal, thus closing the passage of the urinary duct. All other organs were in a healthy condition, only somewhat anæmic. With the presence of this great amount of urine in this cavity for such a length of time, and no appearance of uraemic poisoning nor peritonitis, is very peculiar and without parallel in bovine medicine and surgery.

INFLUENZA.*

By Dr. W. B. E. Miller

Influenza, also known as epidemic bronchitis, catarrhal fever, shipping colds, distemper, etc., but more commonly called pink eye, is a blood disease, with both local and constitutional expressions, which may assume different phases, dependent on sundry influences operating in various ways, generally epizootic, with a tendency to spread. It is also a panzootic disease, arising in different parts of the earth simultaneously, and in this respect is similar to cerebro-spinal-meningitis. When the atmospheric, or other influences producing the blood poison, extends over a large area it assumes an epizootic form. When these conditions are limited and the poisons emanate from purely local surroundings or from the soil, it is called enzootic ; while isolated cases appearing here and there, causing no infection of other animals, are termed sporadic.

The season of the year is supposed to have some influence in its production, it being, as a rule, more prevalent during the spring and fall months. But it matters not in what form it may appear, or at what season of the year, the principal symptoms and lesions are one and the same in all cases, and are readily recognized by those familiar with them.

It is characterized by an early elevation of temperature, not unusually changing from that of normal to 104 to 107 degrees F., or even higher within twenty-four hours. The pulse is usually feeble, soft and quick, but not frequent. The animal will have a dejected appearance in the face. There may be an early chill, followed by sudden and marked debility. The head droops, the muscles relax, and the animal becomes very weak, sometimes crossing his limbs, or if forced to move will reel or stagger as he walks. There are also elementary symptoms which, in my experience, are especially characteristic, namely : tracheal bronchial, or pulmonary catarrh, and continued fever, either of which may predominate, but usually the latter. The animal appears to be suffering from pains in the head (headache), partial deafness from the ringing in the ears, dimness of vision from swelling of the eyelids and the membrane nictitans, pains in the nasal sinuses from swelling of the mucous

* Read before the Veterinary Medical Association of New Jersey.

membrane lining the same. The animal rapidly loses strength without losing any flesh.

In some cases early symptoms may be mistaken for spasmodic colic. The horse will paw, kick, get up and down frequently, but gently, not throwing himself down as if really suffering from colic. These symptoms are of short duration, and the animal soon assumes the upright position, but with drooping head and dejected countenance. A low and debilitating fever (typhoid in character), with external muscular debility, very soon follows. The schneiderian membrane, the membrana-nictitans, and other visible membranes, become greatly injected to a great extent, presenting a pinkish red color, which probably gave rise to the name of "Pink Eye." The eyelids become swollen, sometimes to an alarming extent, often being entirely closed. A watery secretion and often pus is discharged from them, and from the nasal passages, a catarrhal discharge excoriating in character. The smell is impaired, the throat is sore. The cough, when present, as it generally is, is harassing.

Exploration of the chest reveals nothing uncommon, unless pleurisy or pneumonia complicate the case, and when present, they are usually of a "typhoid type," and are not accompanied by some of their marked symptoms; for instance, the severe pain of pleurisy, or the nasty brick dust sputum of pneumonia may be entirely absent. Capillary bronchitis may also intervene. These three conditions are not as a rule found in the early stages of the disease, but more often are secondary, following as a sequence, rather than being complications.

The digestive organs may also be affected, and diarrhœa be present. If so, and when of not too long duration, it may be beneficial to assist nature in eliminating the poison from the system. The urine is scanty, turbid, and heavy with urates, and is voided with some difficulty, which may be due to the fact that the animal finds it difficult to assume the proper position for the act, owing to the weakness and soreness of the muscles.

A horse suffering from influenza seldom, if ever, lies down, not because of embarrassment to respiration, as is pneumonia or pleuro-pneumonia, but because of the general soreness aud stiffness of the muscles and of the extreme debility. The animal apparently knows that if he gets down he will be unable to rise again. He may become so weakened that he will fall down, but as a rule he will not do so voluntarily. When he does so, it is a very favorable symptom. Sometimes the disease is complicated by

"epistaxis," and also assumes a marked typhoid character, or it may take on a rheumatic or erysipelatous form, or it may assume a dropsical character and terminate in "purpura hæmorrhagica" with œdema of the limbs, abdominal and pectoral regions.

One form of the disease (the pharyngeal) manifests itself locally, with but slight cough and soreness on pressure, yet the animal has great difficulty in swallowing. If water is given him he will make an effort to drink, but fails to swallow much, if any, the water returning through the nostrils and thence back into the bucket. In this respect this disease is similar to "Cerebro-Spinal Meningitis," as we have this symptom in that disease but with this difference, that in the latter the animal cannot trough his tongue owing to the affection of the nerves controlling that organ, and although he may make every effort and plunge his head into the water up to his eyes, he cannot draw in the fluid, and when the bucket is removed it runs out of the mouth instead of through the nostrils as in the former case. Another peculiarity of this symptom of inability to swallow, is that he becomes unable to swallow fluids sooner than he does solids, that is, he can continue to swallow solid food after he is unable to swallow water. In my opinion and experience the pharyngeal form of the disease is more liable to assume a malignant type, accompanied by a fœtid odor, and later on by an offensive discharge and sloughing, resulting in septicæmia and terminating in death, due to the fact that the poison had all been absorbed into the system during the early stages of the attack, instead of having been eliminated therefrom by early discharges, as in the catarrhal or other forms of the disease. In severe cases of purpura hæmorrhagica, with extensive swelling of the limbs and abdominal and pectoral regions, wherein the poisonous material has become so thoroughly absorbed that it cannot be eliminated, or its action overcome for some length of time, the same condition of sloughing is likely to appear in the swollen parts, when not only the skin, but the intercellular tissue, and even portions of the adjacent muscles, become involved in the process of decay. The sloughing goes on rapidly in these cases until death or the poll axe puts an end to the suffering of the poor brute. In influenza in whatever form it may appear, or however much it may be complicated, the marked muscular debility is always present and manifested primarily; while in severe cases of other diseases of the throat, bronchial or lungs, after days of sickness from depletive treatment, or from lack of proper nourishment,

it may and often does ensue, but is always a secondary symptom and the sequence of other conditions. The course of the disease is, as a rule, regular, convalescing in from seven to fifteen days, and ends as do nearly all blood diseases, in leaving the patient very much enfeebled, and often with swollen limbs, which may remain for some time after the patient has to all appearances otherwise entirely recovered. With proper treatment, and when uncomplicated, the rate of mortality should not exceed 1½ to 3 per cent., according to surroundings. Good care, warm quarters (well ventilated), and nourishing food, in moderate quantities, have much influence on these patients, and when associated with good treatment, are generally succeessful in bringing about a good recovery.

No class or particular breed of horses is exempt from influenza, yet I am of the opinion that the more heavy animals, draft horses and others plethoric in character and in full flesh, are more susceptible, and seem to become more seriously affected by it. Some authors and practitioners claim that horses owned and kept in the country districts do not appear to be as good subjects as those kept in cities, they being more exposed and kept more in accordance with the state of nature. My own experience, however, leads me to place considerable doubt on this statement. Animals recently brought into our locality from the western sections are generally attacked soon after their arrival, or in course of shipment, hence the term "Shipping Colds," as used by the dealers. Young animals seem more susceptible than older ones, but the older ones seem to have the disease more severely, and are less able to endure the suffering and weakness consequent upon the attack. When they do take it, it seems to have a more exhausting and enfeebling effect upon them in every way.

Many cases that I have seen in old horses were a long time convalescing, and not a few failed to make a complete recovery, being left with some other disease or dying from the disease itself.

The lesions as seen in post-mortem examinations depend very much on the local manifestations of the disease during the attack. The heart is usually placid, containing fluid blood or a soft post-mortem clot. Bladder is empty or nearly so, and shows slight inflammatory conditions of the membrane. The urine, if any, is dark colored and turbid and heavy with urates. Kidneys are slightly congested and softened. The intestinal is tract, apparently normal, unless typhoid symptoms have been present, when Peyer's patches will be found to demonstrate that fact. If the catarrhal symptoms were extensive you may find excoriations of

the nasal sinuses and the air passages with probable sloughing of the same, or perhaps the lesions of a passive pneumonia. Most generally, however, the principal lesions found are those of a bronchitis or catarrh, or both.

IS THIS DISEASE CONTAGIOUS?

Some authors, Gamgee and others, claim that it is. Others, that it is not. I am inclined to the latter opinion, no positive evidence having proven to me its communicability from one animal to another. Certain it is that it is infectious, but the active principle that produces the poison or carries it from place to place, and from stable to stable, and infects one animal, may also infect ten or even a hundred if they come in contact with the poison; and yet no one diseased animal is capable of reproducing the disease in another when the active principle or poison is absent.

CAUSATION.

Many theories have been advanced as to the cause of this disease. Some claim that it is due to ozone in the atmosphere; others, that it is due to a microscopic animalcule; others, that it is due to a change of weather, as a sudden change from wet to dry, or from heat to cold; others, that it is due to injurious noxious gases. Various other causes have been assigned, but all, in my opinion, lack positive proof. Certain it is, that whatever may be the cause, whether exciting or predisposing, or both, it is a material one, and well worthy of more thorough investigation than the profession have thus far given to it, either scientifically or practically.

A disease so prevalent as this has been for several years past, really demands more scientific study. There is no doubt but that the conditions of the atmosphere, and certain bad conditions of surroundings, seem to excite a powerful influence on animals when sick, whether they have any effect on the production of the disease or not. This is also true in relation to the season of the year when the attack takes place.

TREATMENT.

The least meddlesome the better. Perfect rest, good warm stables, warm clothing, warm vegetable and mucilaginous drinks are necessary.

Diaphoretics are indicated, but your patient becomes weak so rapidly that they should be given early and carefully. Do not

deplete in any way if you can avoid it, as the tendency of the disease is to exhaustion Good fresh air, without any draft over the patient, is very essential. The general treatment early indicated is stimulative, something to keep up the strength.

The low debilitating fever is here as an essential part of the disease, and your patient will take no food at all at this stage of the case, and care must be taken therefore to preserve the strength and subdue the fever at the same time. Bleeding is not allowable, because your patient is already becoming enfeebled. You must therefore use febrifuges in connection with stimulants. Spirit Nit. Dulc. and Opium in strengthening doses are always indicated in all pulmonary diseases, and are very useful in this.

Purgatives are inadmissible. Laxative food is all that is required to keep the bowels regular and in good condition. Give stimulants and tonics—quinine, cinchona, ammonia and alcoholic stimulants All are indicated, and are in the line of good treatment if properly administered If the rheumatic symptoms of the disease are found, give salicylic acid, or salicylate of soda in conjunction with nitrate of potash, carbonate of ammonia, etc. Emulucent drinks made of flax-seed tea, mucilage, licorice root, etc , are sometimes beneficial when the cough is distressing. Any treatment that has a tendency to allay the fever and strengthen the patient is admissible. but good ventilation in the stable, without a draft over the patient, good warm clothing, perfect rest, warm drinks, warm nourishing food and good care are essentials. If symptoms or complications, such as pneumonia, rheumatism, excessive dropsical effusions or swelling of the limbs, or purpura hemorrhagica should arise, you must act accordingly, and treat the symptoms as soon as they appear, so as to cut short, if possible, the condition presented.

As influenza and cerebro-spinal meningitis usually occur at the same seasons of the year, it is not unlikely that you may have the two in the same stable at the same time, each of which might be at first mistaken for the other. In fact, I have seen cases wherein, I think, I had both diseases at the same time in the same animal. Here you will have to be guided altogether by your temperature. In the former you have it ranging from 104 to 108 deg. F., with great muscular weakness all over the body; in the latter you have it from 99 to 102 deg. F., never reaching 104 until near the close of life, unless you have influenza with it.

In the latter you also have the peculiar dragging of the toes of the hind extremities, and loss of the power of deglutition, from

paralysis of the tongue. If both conditions are present, you will have a staggering, dragging gait, combined with dragging the toes, and a temperature of 103 to 105, and variable with other well-marked symptoms of both diseases.

This condition would naturally be thought to be very dangerous, but I have not found it positively so. One poison seems to antidote the other ; the influenza acting as a safeguard against the dangerous inroads made by the other disease. In cases thus complicated, purgatives are indicated and are beneficial in aiding one to eliminate the two poisons from the system quickly. Use stimulative treatment afterward to restore the strength, and tonics to build up the system.

VETERINARY COLLEGES.*

IOWA STATE AGRICULTURAL COLLEGE—VETERINATY DEPARTMENT.†

Degree—DOCTOR OF VETERINARY MEDICINE, D.V.M.

IOWA VETERINARY COLLEGE.

Degree—DOCTOR OF VETERINARY SCIENCE, D.V.S.

CORRECTION.

BY JAMES R. WAUGH, V.S.

The JOURNAL erred in the December number by crediting the graduates of the Iowa Veterinary College, Des Moines, Iowa, to the Veterinary Department of the Iowa Agricultural College, Ames, Iowa.

The Iowa Veterinary College is a two-year school with a session of six months each year, and grants the degree D.V.S. (Doctor of Veterinary Science); while the Veterinary Department of the Iowa Agricultural College is a three-year school, with a session of nine months each year, and grants the degree D.V.M. (Doctor of Veterinary Medicine). The first named is an autumn and winter school, while the second named is a spring, summer and autumn school. Veterinary students who attend short winter sessions at college would derive great benefit from a course in a summer school.

THE KANSAS CITY VETERINARY COLLEGE.

Degree—DOCTOR OF VETERINARY SCIENCE, D.V.S.*

Y. H. Wattles, D.V.S., the Secretary and Treasurer of the Kansas City Veterinary College, makes this correction, and adds: "I will also state that, while we see no reason for changing the degree, if the Colleges unite on a uniform degree for all American schools, we will accept the change."

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* Vide, Vol. xiv, No. 6, Fol. 412.

† List of graduates for 1893 will appear in the February JOURNAL.

IATROL AS AN ANTISEPTIC.

By Dr. D. Eugene Black.

Speaking of antiseptic agents as a rule, I believe I have tried nearly all remedies for an incised wound in the region of the pastern in a coach horse owned by a gentleman in this city, caused by a barb-wire fence blowing down in a storm, and the horse having become entangled in it.

HISTORY OF THE CASE.

When I was first called to look at the horse he was in a weak state, having bled profusely, and being unattended for twelve hours or more naturally had suffered more or less from hæmorrhage. I bandaged wound with oakum and perchloride of iron until he could be removed to this city, a distance of seven or eight miles, which I was obliged to lead him, having no ambulance handy. On arriving at stable I ordered wound thoroughly washed with a weak solution of carbolic acid 1–1000, and proceeded to stitch wound with catgut sutures, using the interrupted stitch. The horse was very unruly, and after bandaging wound left animal for the night.

In the morning on visiting I was not a little chagrined and discouraged to find that the continued fretting and worrying of animal had torn all the stitches out and had left the foot in a bad condition. I then gave up the idea of healing by first intention and concluded to allow wound to heal by granulation.

Having first cut away all lacerated flesh and common integument, I dressed the wound with iodoform gauze, covering all with a solution of fluid collodion.

The evening of same day again examined wound and found it looking very unsatisfactory, having formed proud flesh and the care did not at all look favorable. To make a long story short, I had wound cleansed daily with carbolized water and dressed with iodoform powder covered with cotton (medicated) for about three weeks, when it still showed no signs of healing.

I then tried iatrol, which proved far superior to iodoform without having the strong odor of the former.

I used the same three times daily, blown on wound with spray blower, and was pleased to note in three days a marked improvement. In just two weeks from the time I began applying iatrol a cicatrix began to form, and to-day the animal is sound and working.

I can recommend this agent for all wounds and foul-smelling abscesses, and think it deserves a further trial in veterinary surgery.

Buffalo, N. Y.

A STUDY IN HORSE SHOEING.

SIZE, FORM OR SHAPE AND QUALITY OF THE HORSE'S HOOFS.

By Williamson Bryden, V.S.

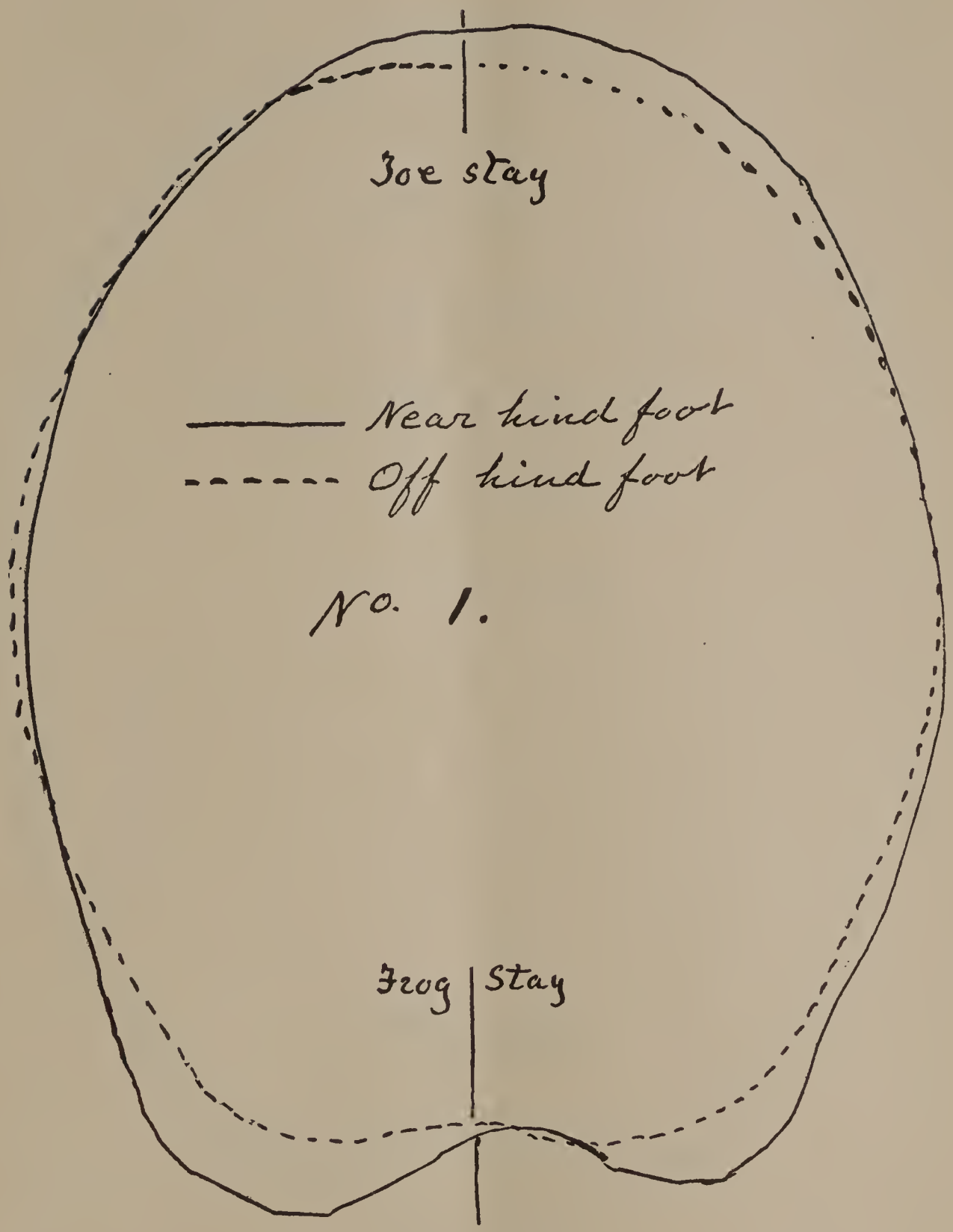
In the study of these features of the horse's hoofs, we often meet with points of interest and having important bearings on the technical work of shoeing the horse's hoofs. Some one has said that "shoeing (the horse's hoofs) is a necessary evil." What nonsence! When properly performed it cannot be otherwise than a benefit, excepting from accident or when neglected in the stable.

I herewith submit to you two (2) pairs of hind hoofs *unshod* and one pair of fore hoofs *shod*.

No. 1 pair, *near* and *off* hind hoofs. This horse was owned by an aged couple; he was a rather moderate beast, about *13 years old*, or, as Dr. Holmes would possibly say, 13 years *young*; had always done his work well enough to suit till some six months before I was called, when the off hock became swollen to twice its previous size; he was very lame and a veterinary surgeon had been called in and had blistered his hock two or three times, but without improving the case. I was then called in, and on examination discovered that the *off* hoof was much smaller than the other, which was not a very good one either. A horseshoer being near by, I suggested that the horse be taken to the forge, where I reduced the hoofs and found them as the cuts indicate; by laying one on top of the other the difference in *size* and *shape* will be readily observed. Vide No. 1.

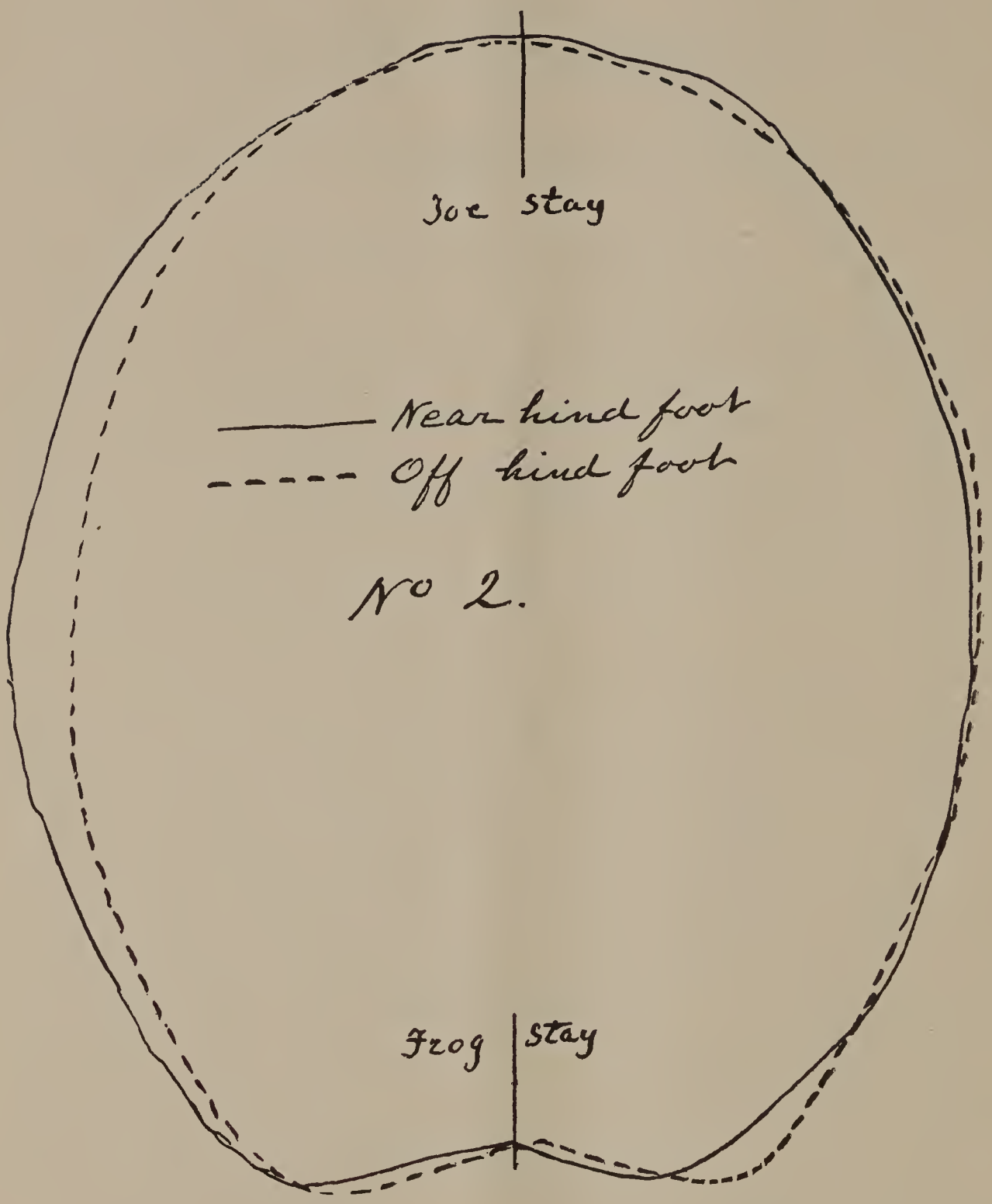
The horse was sent home very much better and able to do a little slow driving. I did not see the case again, but on meeting the horseshoer, an excellent mechanic, he informed me that after being three times shod he completely recovered; indeed, he had been able to perform his work from the time of my visit.

No. 2 pair, near and off hind hoofs of a young 4 year-old stallion. He was standard bred, a very desirable combination centered in him, and he had wonderful vigor and speed; much was expected of him until he was about two years old, when he became slightly lame on the off leg. The lameness was mostly a hitch. He was *let up* and merely *exercised* for two years. I was then called. On



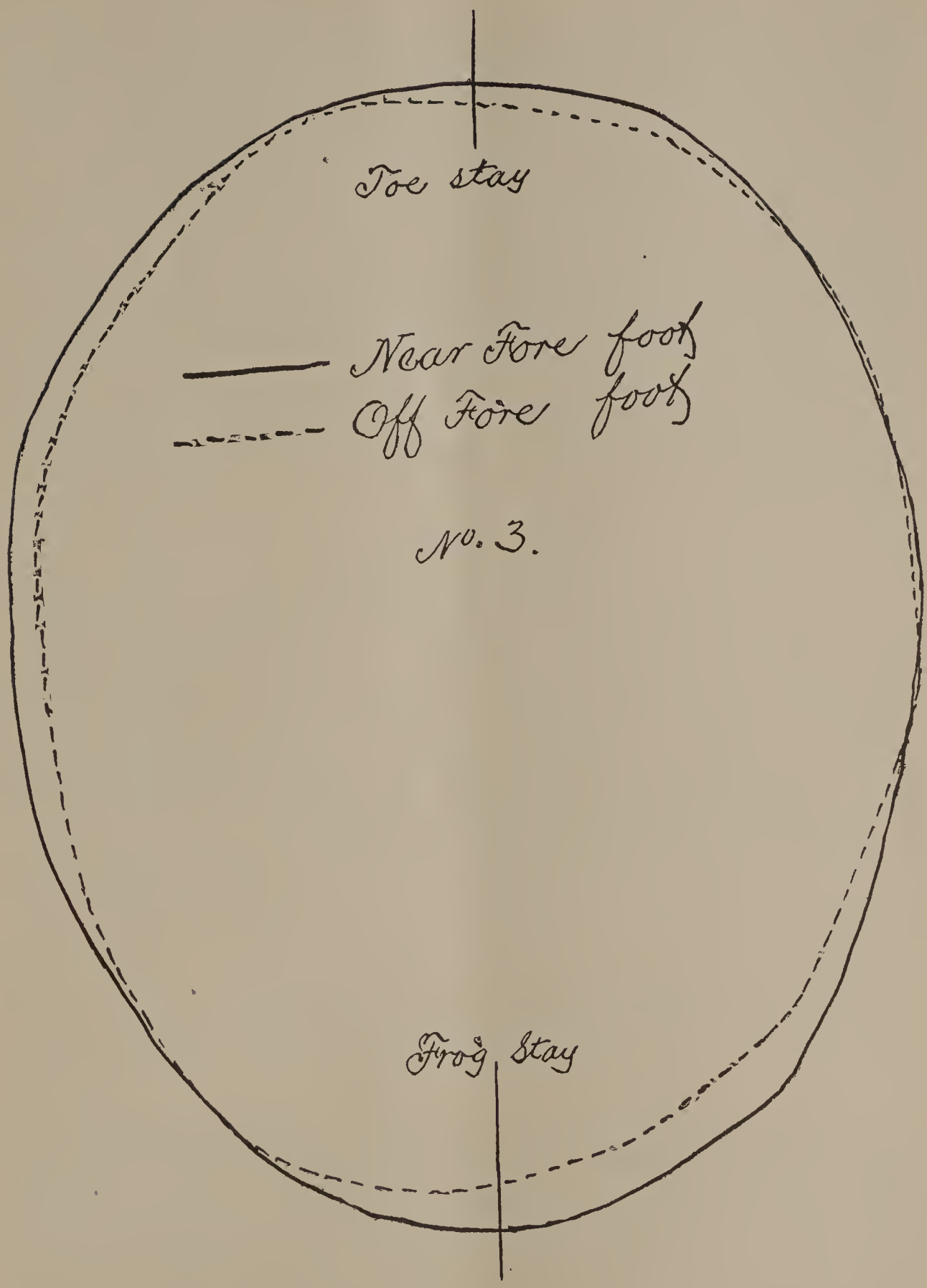
No. 1.

examination I discovered that the heel of the *off* hoof was narrower than the other; the shoe was worn most on the outside, toe and heel, the hoof being smaller than the *near* one. There was a slight puff above the ankle and an enlargement at the seat of bone spavin, due probably to the extra strain thrown on the perforans above the ankle and on the metatarsal flexor at its insertion at the hock. These strains come from several causes, whenever the hoof begins to colapse from improper environment after birth, adverse



No 2.

tissue changes within the hoof begin to take place; this disturbance reacts on the tendons, muscles, etc., of the leg above; some of these become shorter than others, and the leg is thrown out of harmony itself and with the other also; *the angles* formed by the various bones of the leg also causes certain muscles, tendons, etc., to be placed at greater disadvantage than others. He was then driven, when his *hitch* was very conspicuous; one hip was closer to the shaft than the other; the skin over the head of femur and its articulation *wrinkled* considerably when made to travel; the hip



No. 3.

muscles were smaller than on the other side; the tail swerved just perceptibly to the derelict side and the crest of the ilium projected.

I then informed the owners that I considered the case one that could be much improved, perhaps entirely cured, but that it would take nine months or more to accomplish the repair. This being satisfactory I showed them what I intended to prove; that

that the trouble was not necessarily hereditary in character, but the result of after birth surroundings in domestication and neglect or mismanagement. This I should prove by the success or otherwise of the treatment, which would be entirely benign and wholly directed to the cultivation and reproduction of a better hoof. I have sometimes feared that when a hoof went amiss during the *growing period of its* (*the colts'*) *life* for a year or two it would never regain the size it lost at such a time. The cuts will show that it has not quite recovered, although practically well. The day these cuts were taken, two or three months ago, he carried me four miles to a railway station in just twenty minutes, and in a common road buggy with myself weighing 225 lbs., and a driver that weighed 160 lbs., in it. He did this without a limp or a skip, and was none the worse for his drive.

"Not a step was out of tune."

No. 3 are a pair of fore hoofs with the shoes on. I was sent to examine the animal for *Soundness*. On finding this defect I requested to know the price, as I always do when any blemishes are present. The price proving to be all the beast ought to bring if sound, I asked for a special guarantee, as I considered that at the price named, although the animal did not limp, the purchaser would be taking more than an ordinary business risk.

The cuts indicate this class of blemishes or imperfections.

TREATMENT OF STAGGERS.

By M. Parazols.

M. Racca, Military Veterinarian, has already reported two cases of staggers cured by hypodermic injections of pilocarpine. M. Parazols has tried the treatment which gave such good returns to his Italian colleague and congratulates himself on the result. He reports three cases where horses affected with staggers were cured in less than a week by injections of the nitrate and chloro-hydrate of pilocarpine. The dose was 60 cgm. the first day, 78 cgm. the second and 80 cgm. the third. The three injections were sufficient. The author does not claim that pilocarpine will cure all cases; but when the immobility is due to effusion into the lateral ventricles it will surely give good results, whilst it certainly will not when due to a tumor.—*Revue Vétérinaire.*

OSTEO-POROSIS, *NOT* MILLET DISEASE.

By W. H. Mattsen, V.D.M.

In the November number of the Journal there is an article entitled "Millet Disease," by T. D. Hinebauch, M.S., V.S. I must certainly take objection to his diagnosis of the cases he gives in point. The symptoms, as he gives them, point conclusively to osteo-porosis. He speaks of the great soreness of the muscles of back, chest and loins, of haunches being very sore and painful to the touch; of course, when pressure is put upon these muscles, in osteo-porosis there is more or less strain on their bony attachments, and these cases, having the disease in an acute form, there would be more pain evinced upon pressure than we generally see. He speaks of the high temperature in some cases; at the outset it might be due to the severe pain alone, *most likely it was*. The increased action of kidneys at first and diminished action afterwards might be the result of pain due to general diseased condition of the bones, or it might be an effort of nature to relieve the system of some poisonous material. The bowels, he says, are constipated, any fever will tend to that condition; anyway there is some lack of nutrition in the animal. The cramped position is due more to the pain in the joints and body of the bones than in the muscles. The disposition to keep still, the pain the animal showed when moved, are characteristic symptoms of osteo-porosis. The inability to get up when down, also the pain in the joints is severe.

The pleurodynia he speaks of, is most likely the pain caused by the ribs and their articulations being so very sore. The pleurisy must be a mistake. He says, these severe symptoms usually subside in from twenty-four to forty-eight hours with vigorous treatment, *then* the joints become affected and *typical* form is established. Now, then, he is coming more to the point and to our conclusions.

These symptoms which he gives show the disease in an acute form, the increased temperature, the increased activity of kidneys, the great pain, *seemingly*, of the muscles, and the lameness of the animal, all show that the disease was very rapid and severe. Usually we see it in a slower form, and find no rise in temperature, in fact, no severe symptoms, but lameness and soreness of joints

and often soreness of the spinous processes, probably these acute symptoms he found were due to the surroundings of the animals, as he says, their stables were very damp, in fact, the ceiling covered with moisture and dropping on the horses ; and he also says that *young* horses have it in a milder form than older ones.

We now know that young horses *can be* cured of osteo-porosis if the diagnosis is made early enough and the proper treatment is used ; but for older ones, I doubt if anything can be done for them. He gives three cases as being an average of them all, the first, he says, recoved in about ten days ; now she *might have had* azoturia and gotten over it all right ; her symptoms do not coincide with next case.

Case II. Great lameness in left hind leg, all the joints very sore and tender to the touch, would stand by awhile, when down would not rise, was placed in slings and in her struggles ruptured the perforatus tendon of the right hind foot ; *just that lesion shows her trouble.*

Case III. Symptoms about the same as Case II ; in their attempt to raise her with slings the gastrocnemius was ruptured from the os calcis. *Proof No. 2.*

Post-mortem Lesions.—The rupture of the different muscles from their attachments, the fact that in some cases pieces of bone were torn loose, the diminished supply of synovial fluid, the indentations on the ends of the bones and articular surfaces, the wearing away of the articular cartilages and the bones becoming spongy, show perfectly, plainly, that his "Millet Disease" is osteo-porosis and nothing else. After he found these lesions on post-mortem, *he surely ought to have recognized the trouble.*

He says: "Most of the cases occurred in poorly ventilated barns." What has ventilatiou got to do with the result of millet as feed to horses ? I would like him to tell us.

The experiments he made with millet as a feed seem to me a waste of time, as the result he gives shows nothing whatever. One horse had colic twice within a week, and the other showed a queer gait for a little time. I have fed millet to my own horses for weeks together, and have known horses all around me to have been fed on it, with no hay at all, and I have never yet seen any bad effects from it. It seems to me, if it did cause trouble, it would simply be some boned trouble or colic.

CAMP GROUND, PENN.

QUITTOR.*

By Williamson Bryden, V.S.

The *Veterinary Journal* for September, 1893, contains the last of a synopsis of Prof. MacQueen's article on Quittor, read by him before the Midland Counties Veterinary Medical Association, England. Its completion in the *Journal* was awaited with interest and expectation one waits for what a popular teacher has to say when the subject reviewed is ill understood by the profession, and often difficult to treat satisfactorily in practice.

From ten to twelve years ago I engaged in a controversy with members of the teaching and hospital staffs of the "American" Veterinary College, New York, on the subject of Quittor, but dropped the matter as my contention did not appear to be understood. I beg to submit, therefore, that I am somewhat disappointed to find Prof. MacQueen still practically taking the side I then opposed (Vide *American Veterinary Review*, page 373, November, 1881 ; vide *American Veterinary Review*, page 479, January, 1882 ; vide *American Veterinary Review*, page 531, February, 1882 ; vide *American Veterinary Review*, pages 572, 573, 575, 577, March, 1882). In this he was not only sustained, but endorsed and applauded by all present at the meeting where his article was read and discussed.

Judging from my own practical experiences with True Quittor, I beg your permission, and also Prof. MacQueen's, to state that I regret the fact that the confusing of Quittor and a number of other diseases, thought to resemble it, has been most unfortunate, some of them being the result of accidental and other injuries, the ætiology and therapeutics of which are entirely different from one another. This confusion seems largely to prevail in Europe as well as in America. Pathology regarded in this general way loses its significance, and never can lead to anything but confusion of the student and illogical treatment of the patient ; never ! to that professional progress demanded by earnest friends of the veterinary surgeon who dare *to think* for themselves. From the evidence before us, veterinary practice in this respect in 1893 is little if any in advance of the days of Markham and Solleysel.

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* Read before the Massachusetts Veterinary Medical Association.

Prof. Gamgee, in his "Diseases of our Domestic Animals," seems to me to have had a truer conception of the ætiology of Quittor than any of the veterinary authors I have chanced to read so far.

In presuming to take the positive stand I do, with reference to what I have (rightly or wrongly) called the physiopathological class of diseases of the horse's feet, legs and other parts, I beg to explain, especially to practitioners like myself, who have only received the ordinary veterinary education of some twenty-five years ago, that although I may not describe the many interesting phenomena and *adverse tissue changes* taking place within a part like the hoof, in the limb, and *to* the "horny box" itself, with the exactness of a trained pathologist, I *can* state in all candor, however, that my observations are the result of actual experiences in practice, one of more than ordinary proportions, during a period of over twenty years, and embracing never less than from 500 to 1,000 street railroad horses, in addition to a mixed practice among all kinds of horses and cattle larger than the average number. Pardon my making the foregoing remarks about *my practice* and also for suggesting that one of the most important features of any diseased condition to the student is to have a proper appreciation of its ætiology (its history) from the first adverse tissue change. When the hoof, from unfavorable conditions, begins to change (all or in part) in form, size, or quality. and to crowd and encroach on the sub-horny, sub-coronary and other structures that secrete and nourish healthy tissues, or that renew and repair such as have become degraded and imperfect, even to those that are the deepest seated, lining the nutrient foramen, etc.; so deep seated, indeed, that no operation that is safe and practicable could possibly reach, or that nature could renew or repair, in less than the average time which she demands to remove such defective tissues and reproduce or transform into new. These adverse changes (degenerations) having been going on for perhaps a year or more, and having involved the whole quarter to its innermost recesses, she (nature) finally rebels, and a swelling with lameness and some discharge appears at the quarter coronet. This is True Quittor. In my experience *such a sinus could no more be cured in a month*, or even hastened, than an egg could be hatched by some patent incubator in one-eighth, one-quarter, or one-half of the time it could be done by an old hen. Such a Quittor could no more be *cured in a month* than a case of seedy-toe that had undermined the wall to within an inch of the coronet could be *renewed in a month.* These are prerogatives of Old Nature, that she never tolerates being trifled

with or coaxed from her control, not even by a *bluff* operation. I contend, therefore, that what is claimed to be excision of the cartilage has no more to do with the *cure* of Quittor than punctured wounds of the foot or treads on the quarter have in *causing* Quittor. I mean true Quittor which *cannot be cured by excision until after* Tom, Dick and Harry have treated it for *over six* (*6*) *months*. Then some operator pretends to cut it out, charges a large fee, and it gets well in a month or so. He also gets the credit for a cure that he has no right to. The fact of the matter is, it has then, as it were, "run out," and would have got well in common course in spite of their interference. It could not then be prevented from getting well unless complicated by some unusual interference, sometimes called surgery, heroic surgery, *a very bastard surgery*, too, I consider such work.

The other cases that get well after an operation are those said to be caused by *treads and accidents*, which could not possibly cause True Quittor, not even by a coincidence. How could it? The early history of the case is entirely inconsistent and incompatible; the adverse changes in the tissues of the quarter have not prepared it for this form of disease.

Let us take for example a case where from a defective coronet the coffin bone has become adversely affected, the cartilage elements of the pedal articulation being most involved, the process or function of "selection and appropriation" has not been properly performed, and in the disturbed state of the parts, this cartilage element has been *transplanted or transferred* by the circulation to the wings of the os pedis; such a piece of cartilage might be pared off with impunity, but this is uncalled for patchwork, and quite another affair from a case where the quarter is all degenerated, a change that has been going on perhaps for months or years.

During the early adverse tissue changes of true quittor, the disease can be arrested, but not after the *sinus has opened in the usual way;* then an average period of over seven and a half months is demanded according to my experiences and philosophy; then, also, a cure can be guaranteed, and so can the time required to effect it be predicted with almost unvarying exactness. These are facts that can be demonstrated in every case.

What will the pathologist of the future think of the Veterinarians who flourished in 1893, and who could not discriminate between fistulæ, sinuses of the *foot*, the different sinuses of the *withers*, or the different sinuses of the *poll?* Their different ætiologies have not been considered separately, but have all been,

in each case, mixed together and an average struck. Of what use are such averages? It never seems to have occurred to practitioners that cases like these, or that cases like so called *navicular disease*, and cases of *disease of the navicular bone* were entirely different things. In August, 1892, I was called to a finely bred mare due to foal last Spring ; she had a faulty gait—she was a "paddler" —but carried her master some three miles to the station once or twice daily till November. She developed in August a condition of the withers which indicated fistula, which it finally proved to be. I ordered it not to be opened until " fly time " was past. A flaxseed poultice, made with five per cent. solution of carbolic acid was put in a thin bag and attached under the front of an old thin blanket every night ; an abscess like a swelling soon organized, which I opened by drawing tapes through it in November. In a short time it was entirely cured. Her foal came along in due course, and she was again ready for *service by the horse*—a very vigorous young one.

Immediately after I was again notified that the *mare* had another fistula. Instead of a true fistula which it resembled, however, it proved to be the result of an accident, the stallion having bitten the withers when serving her. This recovered in about three or four weeks, from the fact that it was merely a simple wound to tissues that were healthy when bitten. Then again, we have all seen cases where, from the fact that the feet having become tender, and the muscles, ligaments, and other tissues of the shoulders, having become gradually changed from sympathy or otherwise the dorsal spines become injured when lying or rolling against the wall or floor, from repeated bruises or other causes, tardy healing sores are the result.

Almost a similar class of cases is found in connection with poll evil, which could not all have come from a simple blow, as formerly taught.

Sincerely hoping that my remarks will offend no one, for they are only intended to stimulate investigation in newer lines ; to train the eyes that they may see differently and more accurately ; to cultivate our powers of observation, that we may be better able to interpret Nature's laws in health and disease, and be able to discriminate between the different tissue changes, and know the history of such changes from the very beginning—then can we hope to logically predict the result of treatment, and the time required to accomplish cure or repair most successfully.

TUBERCULAR MENINGITIS.

By W. H. Mattsen, V.M.D.

One of our M. D.'s called my attention to a 6-months'-old Jersey calf he was raising, which had, to within a week of my seeing it, seemed perfectly healthy. It was in as good condition as calves of that age generally are, and seemed to be thriving nicely.

Symptoms and History.—The doctor said he was in the field looking at this calf one afternoon, when very suddenly it fell to its side, was unable to get up without help, and if let go would fall again ; its eyes would roll back ; its head turned to one side (to the right), and it lay on its left side; it eat some, seemed hungry. He examined it the best he could and made his diagnosis ; finally he called my attention to it as being an interesting case, so I went to see it; found it on its left side with its back curved. I turned it over on the right side, when it immediately had a spasm; the neck was then bowed up and would not straighten. I turned it back again, when it was easier. I examined right lung and found all the sounds of tuberculosis; the left lung I did not listen to. I diagnosed him tuberculosis with, I thought, tubercles in the brain, or tubercular meningitis. That evening it died. The next day I held an autopsy. I found left lung solid, right lung two-thirds filled up; pleura very much thickened and covered with tubercles, some as large as a walnut; pericardium very thick, also covered with tubercles; the pleura had adhered to the ribs in many places; the liver and omentum were free from tubercles, as far as we could see with the eye. I took out the brain, but could not find anything, so I gave it to Dr. Formad of the University to examine under the microscope. To-day he wrote me that he found several tubercles on the blood vessel walls of the pia-mater and distinct lesions of tubercular meningitis, the brain matter itself being free from tubercles.

This was a peculiar case, as this calf had never shown any signs of *any* trouble whatever ; had never even been heard to cough. Diagnosis of dislocated vertebra had been made before I saw the case.

EDITORIAL.

CURRENT LITERATURE FOR VETERINARIANS.

The announcement of the establishment of a new veterinary periodical by the University of Pennsylvania, Veterinary Department, brings up recollections of our own experience in editing a journal upon a special subject. In musing over the demands of the veterinarian for the reading which he wants to aid him in his practice, to educate him for contact with the varied world with which he is thrown, and to distract himself with in his idle moments, we soon found ourselves deep in the files of our exchanges and current literature, and realized what an atom a single publication is in the mass of good, bad, and worse which is published. The growing circulation of the JOURNAL, not only among veterinarians, but also among physicians, scientists, and laymen interested in animals, is evidence that it has been appreciated, and has succeeded in supplying the news and information which is asked for. A veterinary publication cannot live as do newspapers, secular periodicals, and many medical journals, upon the advertisements which are taken with little scrutiny and mixed with reading matter to catch any or all classes of readers. The readers of a journal upon a special subject demand that it shall give its semi-indorsement of its advertisers only to those of reputation, so that non-professional supplies are only advertised in its pages when there is some reason for a special demand for them by the readers. A veterinary journal in its reading matter, in the same way, must supply its subscribers with all that there is of importance and value upon strictly professional subjects, and with such other matter as is allied to the general information and education of its clientele. With the progressive spirit of the veterinary community in America, and the present diversified opinions amongst the fraternity as to the manner in which greater unity of system of education is to be attained, it would be both arrogant and inexpedient to "EDIT" all the material which reaches us, as can be done upon a still more specialized subject, and it would be improper for the editorial pen to advocate too strongly many of the new theories in veterinary medicine, no matter how enthusiastically we may favor them. It is for us, only, to select to the best of our

judgment original manuscripts and reproductions from other journals which seem best suited to the wants of our readers. Our limited four or five score of pages in a number force us to reject and omit much which we would like to publish. How well we have succeeded, we compliment ourselves upon, by the increase of our subscription list.

The following condensed review of our file of exchanges, we believe, will be of value in guiding those who wish to extend their reading beyond the pages of the JOURNAL, which we hope will continue to retain its old friends as it adds new ones in the coming year.

VETERINARY JOURNALS.

AMERICA.

THE JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES. Monthly, Vol. XV., No. 1, January, 1894. Editors, W. A. Conklin, Ph.D., D.V.S., and Rush Shippen Huidekoper, M.D., Veterinarian (Alfort), 155 West 56th Street, New York City.

The JOURNAL, which has now reached its fifteenth year, was established in New York, and continued as a quarterly publication for ten years, during which time Dr. Conklin was the guiding editor. Through his intimate affiliation with the scientific world most valuable papers upon subjects of original research in Comparative medicine were obtained. Four years ago Dr. Huidekoper joined the editorial staff, and the JOURNAL was transformed into a monthly periodical.

It offers to the veterinary profession, to physicians interested in comparative medicine, and to the intelligent agriculturist, stock breeder and horseman, a complete record of the discoveries in comparative medicine, and of the advance in veterinary matters. All matters of general interest in animal industry, the breeding, care of, shoeing, use of, and commerce in animals, are carefully reported. These allied subjects are as useful to the horseman and agriculturist as they are necessary to the veterinarian.

The JOURNAL publishes all important mattters pertaining to comparative medicine, clinical records, laboratory research, and animal industry. Illustrations are used whenever they can aid in rendering the writings more clear.

Full reports of the veterinary schools of the United States and Canada, and the proceedings of the local, State and United States Veterinary Medical Associations are published promptly.

The JOURNAL is the organ of no school, but is the representa-

tive of the veterinary profession of the United States and Canada.

American Veterinary Review. Monthly. Vol. XVII. No. 9, December, 1893. Edited by A. Liautard, M.D., V.M., American Veterinary College, 141 West 54th Street, New York. The Review was established and supported for a number of years by the United States Veterinary Medical Association, until it was placed upon a firm basis, when it was given to Prof. Liautard, by whom it has been conducted since that time. It publishes original and selected articles upon veterinary matters, with numerous translations and reports of current society proceedings.

New York Veterinary Journal and Record of Comparative Medicine. Quarterly. Vol. II, No. 2, November, 1893. Editors, Jacob Homer Gardner, Ph.D., D.V.S., and Theodore A. Keller, D.V.S., 207 West 42nd Street, New York. A small quarterly upon general veterinary matters.

Veterinary Magazine, Monthly. To appear January, 1894. University of Pennsylvania, Veterinary Department, Philadelphia, Penn. The prospectus, just received, announces :

"The 'Veterinary Magazine' will be edited by Simon J. J. Harger, V.M.D., Professor Veterinary Anatomy and Zootechnics ; Leonard Pearson, B.S., V.M.D., Professor of Theory and Practice ; Leo Breisacher, M D., V.M D., Professor of Physiology, and John William Adams, A.B., V.M.D., Assistant Professor of Surgery, Obstetrics and Farriery—all members of the Faculty of the Veterinary Department, of the University of Pennsylvania ; and will have as collaborators a number of the most eminent veterinary practitioners and scientists of America and Europe."

ENGLAND AND SCOTLAND.

The Journal of Comparative Pathology and Therapeutics. Quarterly. Edited by J. M'Fadyean, M.B., B. Sc., F. R. S. E., Royal Veterinary College, London. Vol. VI, Part 3, September. 1893.

"The Journal was founded in the beginning of 1888, with the object of stimulating scientific research and accurate clinical observation regarding the diseases of the lower animals. The present number will indicate the scope and character of the matter which it is intended to gather into the Journal

Stated briefly, the leading features of the publication are :

1. Original or translated Monographs and Essays by the most eminent authors.

2. Editorial articles on current topics in the domain of Medical Science.

3. Short Clinical Reports of interesting cases in veterinary practice.

4. Reviews and notices of important recent publications (British and Foreign) relating to the diseases of the lower animals.

5. Abstracts of the more important articles in French, German and Italian Veterinary Periodicals.

6. Illustrations freely introduced wherever they are required to elucidate the text."

THE VETERINARIAN. Monthly. Vol. LXVI. Edited by Professors Macqueen, Simonds, Brown, Axe, and McCall; London. *The Veterinarian* is the oldest English veterinary periodical, founded 1828. It publishes original articles upon veterinary subjects and full reports of the proceedings of the Royal College of Veterinary Surgeons, English and Scotch societies.

THE VETERINARY JOURNAL AND ANNALS OF COMPARATIVE PATHOLOGY. Monthly. Vol. XXXVII, 1893. Edited by George Fleming, C.B., LL.D., F.R.C.V.S.; London. Treats of the subjects of the same nature in general as *The Veterinarian.*

THE VETERINARY RECORD. Weekly. Vol. VI. commenced July, 1893. Edited by ——, London. A bright weekly with short articles of practical interest.

FRANCE.

RECUEIL DE MÉDECINE VÉTÉRINAIRE. Bi-monthly: Series VII, Vol. X, 1893. Edited by the Faculty of the Veterinary School at Alfort (Seine-France) with the concours of numerous French veterinarians. *The Recueil*, established in 1824, is the oldest and one of the most valuable of veterinary publications. Alternate numbers contain the proceedings of the Société Centrale de Médecine Vétérinaire.

REVUE VÉTÉRINAIRE (Ancien Journal des Vétérinaires du Midi). Monthly. 18th (50th) year. Editors, Faculty of the Veterinary School of Toulouse (France).

General veterinary articles.

JOURNAL DE MÉDECINE VÉTÉRINAIRE ET DE ZOOTECHINE. Monthly. 3d Series, Vol. XVIII; XLIV of the collection. Edited by the Faculty of the Veterinary School at Lyon (France).

General veterinary articles.

BELGIUM.

ANNALES DE MÉDECINE VÉTÉRINAIRE. Vol. XLII, 1893. Edited by the Faculty of the State Veterinary School at Cureghem, Brussels.

General veterinary articles.

ITALY.

GIORNALE DI VETERINARIA MILITARE, Rivista Mensile di Ippologia. Monthly. Vol. IV. Edited by Dott. L. Baruchello, Rome.

General veterinary articles and special practical matters concerning military application.

LA CLINICA VETERINARIA. Three numbers a month. Vol. XVI, 1893. Edited by Prof. Dr. Lanzillotti-Buonsanti, director of the Veterinary School, Milan.

General veterinary articles, scientific and practical translations from the German.

IL MODERNO ZOOIATRO. Bi-Monthly. Vov. IV, 1893. Edited by Roberto Bassi, Turin.

Veterinary and zootechnic subjects are treated, including the records of racing.

GIORNALE DE ANATOMIA, FISIOLOGIA E PATOLOGIA DEGLI ANIMALI. Vol. XXV, 1893. Edited by L. Lombardini, P. Oreste, A. Gilvesbuni, I. Vigezzi and others. Pisa.

Original articles, extracts and translations.

GERMANY.

ZEITSCHRIFT FUR VETERINARKUNDE, mit besonderer Berücksiehtigung der Hygiene. Organ für die Rossärzte der Armee. Vol. V, 1893. Monthly. Edited by Oberrossarzt G. Koenig, inspector of the Royal Military Veterinary School, Berlin, Germany.

Practical veterinary articles and horseshoeing.

REPETORIUM DER TIERHEILKUNDE, angefangen 1840, von O.-M.-R. Dr. V. Hering. Zeitschrift für tierärztliche Chirurgie. Edited by Prof. L. Hoffman, Royal Wurtemberg Veterinary High School, Stuttgart.

Rich in short reviews from other journals.

ARCHIV FUR WISSENSCHAFTLICHE U. PRAKTISCHE THIERHEILKUNDE. Six numbers a year. Vol. XIX, 1893. Edited by Prof. Dr. C. Dammann, Geh. Reg.- und Med.-Rath und Direktor der Königl. Thierärztl. Hochschule in Hannover; Prof. Dr. W.

Ellenberger, Med.-Rath und Lehrer an der Königl. Thierärztl. Hochschule in Dresden; Prof. C. E. Müller, Prof. Dr. J. W. Schütz, Lehrer an der Königl. Thierärztlichen Hochschule in Berlin, und Prof. Dr. O. Siedamgrotzky, Ober-Med.-Rath und Lehrer an der Königl. Thierärztlichen Hochschule in Dresden.

Berlin, Germany.

An advanced scientific veterinary publication.

Oesterreichische Monatschrift fur Theirheilkunde und Revue fur Thierheilkunde und Thierzucht. Vol. XVIII, 1893. Edited by Alois Koch, K. K. Bezirksthierarzt, Vienna (Austria).

A practical clinical journal frequently illustrated. Contains good reviews.

Monatschrift des Vereins des Thierarzte in Oesterreich. Monthly. Vol. XVI, 1893. Edited by the Society, Vienna.

Practical short articles and matters of local affairs.

Thiermedizinische Vortrage. Monthly. Vol. III, 1893. Edited by Dr. George Schneidemuhl, University of Riel.

Original articles and extensive reviews.

Thierarzliche Mittheilungen.

Wochenschrift fur Thierheilkunde und Viehzucht. Weekly, XXXVII year. Edited by M. Albrecht and Ph. J. Goring, Munich, Bavaria.

Short, practical articles.

Berliner Thierarztliche Wochenschrift. Edited by Dr. W. Dieckerhoff, Dr. R. Schmaltz, Professoren an der thierärztlichen Hochschule zu Berlin. Dr. R. Lothes, c. Departements- und Kreisthierarzt zu Koeln.

A practical clinical weekly.

SPAIN.

Gaceto Medico-Veterinaria. Rivista quincenal de medicina comparada, higiene, bacteriologia, agricultura, zootecnia, etc., é intereses profesionales. 2nd Series, Vol. XVII. Edited by Director D. Eusebio Molina Serrano, Madrid.

General veterinary and allied subjects.

SWITZERLAND.

Schweitzer Archiv fur Thierheilkunde, 6 numbers a year, vol. XXXV, 1893. Edited by Dr. A. Guillebean and Prof. E. Zschokke, Turich. General veterinary articles.

HOLLAND.

TIJDSCHRIFT VOOR VEEARTSENIJKUNDE EN VEETEELT. 6 numbers a year, Vol. XXI. Edited by D. F. van Esoeld, Dr. L. J. van der Harst and W. C. Schimmel, Royal Veterinary School, Utrecht.

General veterinary articles.

JAVA.

VEEARTSENIJKUNDIGE BLADEN VOOR NEDERLANSCH-INDIE. Vol. VII, 1893. Edited by the Veterinary Society of the Dutch Indies, Batavia, Java.

A live, active, scientific and practical journal.

RUSSIA.

ARCHIVES OF VETERINARY SCIENCE. Quarterly. Vol. VI, 1893. Edited under the auspices of the Government Medical Department, St. Petersburg. General veterinary matters and numerous translations.

DENMARK.

TIDSSKRIFT FOR VETERINÆRER. Monthly. Edited by Prof. Dr. H. Krabbe, Copenhagen. General Veterinary articles.

SWEDEN.

TIDSSKRIFT FOR VETERINAR-MEDICIN OCH HUSDJURSSKOTSEL. Vol. XII, 1893. Edited by C. A. Lindquist, Professsor of the Royal Veterinary Institution, Stockholm. Scientific and practical veterinary articles.

INDIA.

INDIAN VETERINARY JOURNAL. Edited by Dr. Henry T. Pease, Lahore. Printed in Hindoostanee.

To be continued by a review upon journals publishing matters concerning subjects allied to veterinary affairs.

SOCIETY PROCEEDINGS.

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The thirtieth regular meeting of the Veterinary Medical Association of New Jersey was held at the U. S. Hotel, in Morristown, on Thursday, Dec. 14th, 1893.

Dr. Gerth, the president, being absent, the meeting was called to order by Dr. Drummond of Woodbridge, N. J., second vice-president.

On call of the roll, the following members answered to their names: Drs. W. B. E. Miller, Camden, N. J.; J. W. Hawk, Newark, N. J.; James C. Dustan, Morristown, N. J.; B. F. King, Little Silver, N. J.; W. Runge, Newark, N. J.; R. O. Hasbrouck, Passaic, N. J.; R. R. Letts, Hoboken, N. J.; J. M. Everetts, Hackettstown, N. J.; M. M. Stage, Dover, N. J.; A. W. Axford, Naughreght, N. J ; H. Exton, Washington, N. J.; B. L. Drummond, Woodbridge; S. Lockwood, Woodbridge, N. J.; Ira Kilburn, South Orange, N. J.; Prof. Leonard Pearson, Philadelphia, Pa. Delegates from Pennsylvania State Association were present, also: Dr. J. W. Stickler, M. D., Orange, N. J.; Dr. A. V. Baldwin, M. D., New Brunswick, N. J.; Dr. G. Swain, M. D., Chatham, N. J ; and about twenty visitors, stockgrowers, dairymen and farmers, who were interested in the question of tuberculosis, which was one of the special orders of this meeting.

The regular order of business was first gone over, and an interesting and instructive paper on influenza in the horse was read by *Dr. Miller*, of Camden.

Prof. Pearson, of the University of Pennsylvania, read an interesting paper on tuberculosis and the use of tuberculine in diagnosing the disease. He gave a history of a number of experiments with the same, also of a number of experiments on pigs and rabbits. He also spoke of the dangers of tuberculosis and the necessity of both State and National legislation for this disease.

Dr. Stickler, of Orange, followed with some very interesting and instructive remarks on the disease, and gave an alarming report of the number of deaths from the disease in the human family in the last ten years in this State, averaging over three thousand each year. He also urged the necessity for better and more effective legislation.

Dr. Baldwin, of New Brunswick, followed with other pertinent remarks and figures. He also gave an interesting account of a number of experiments that he had seen and assisted in at the Experimental Station, near New Brunswick. He, too, urged the need of proper legislation. Remarks were also made by Drs. Hawk, Miller, Dustan, Lockwood, Swain and others, all pertaining to the subject.

A characteristic specimen of the disease was presented before the Association by Dr. Hawk, in a pair of lungs from a registered Jersey cow, owned near Orange, N. J., which he had slaughtered a few days ago, and which had been kept as a private family cow. The lungs were a solid mass of tubercles throughout.

Dr. Stickler requested the Association to appoint a committee to confer with a

committee from the State Medical Association and other associations, for the purpose of formulating a bill to be presented to the next legislature, having for its object the eradication of the disease from the dairy herds known to be infected in various parts of the State, and to prevent the sale of milk from such herds.

The Association also adopted resolutions of condolence with the family of the Hon. J. M. Rusk, deceased, late Secretary of Agriculture, who was an honorary member of the Association.

Resolutions were also passed approving the action of the late International Veterinary Congress, held in Chicago, Ill., and of the resolutions adopted there relating to the spoils system in the veterinary appointments recently made by the Bureau of Animal Industry.

A resolution was also passed disapproving the action of the officers of the National Veterinary College at Washington, in making their course one or two years instead of a more lengthy one, believing it prejudicial to the best interests of veterinary science, to graduate students after such a short course of study.

Drs. Dustan, Letts and Drummond were appointed essayists for the next regular annual meeting, which will be held in Trenton, on the second Thursday in April, 1894.

Some interesting cases were then reported by some of the members, and thanks were then extended to the visitors and others for their attendance and interesting remarks made; also to mine host A. E. Voorhees for the use of his elegant parlors in which to hold the meetings; after which the meeting adjourned.

S. Lockwood, *Secretary.*

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

The regular monthly meeting of the Keystone Veterinary Medical Association was held Tuesday evening, December 12th, 1893.

The meeting was called to order by the President, Dr. Chas. T. Gœntner; there answered roll call Drs. J. B. Raynor, Hoskins, W. D. Hart, J. R. Hart and Gœntner.

The minutes of the previous meeting were read and approved. The Board of Censors for the ensuing year, Drs. James B. Raynor, W. Horace Hoskins, and Walter L. Hart were appointed. The Board Censors ordered at the last meeting to look after the Prothonotary's office to make necessary changes in their mode of registering, reported through Dr. Hoskins that they had interviewed the registering clerk who has charge of the veterinary register as to the changes that had occurred in the profession, and notified him that they would give him the dates of all the changes as they shall occur, so that he shall be able to keep proper record of the same.

It was moved and seconded that Dr. H. B. Felton's resignation be laid over until next meeting, so that the Secretary can look over the minutes of the previous meeting to see if it had been acted on before.

The Board of Censors reported favorably the applications of Drs. W. L. Rhoads and H. J. McClellan, of Lansdowne, Pa. (American Veterinary College), and they were elected members of the Association unanimously.

Dr. W. S. Hooker was elected delegate to represent the Association at the

meeting of the New Jersey Veterinary Medical Association to be held at Morristown, N. J., December 14th, '93.

It was moved by Dr. Hoskins, seconded by Dr. Gœntner, that the Association request their Board of Censors to draw up suitable resolutions approving that part of the President of the United States message that relates to the merit system in the appointment of Veterinary Surgeon in the Bureau of Animal Industry, and to his efforts to stamp out contagious disease in cattle.

Adjourned to meet second Tuesday in January, 1894.

WALTER L. HART, D.V.S., *Secretary.*

MONTREAL VETERINARY MEDICAL ASSOCIATION.

A meeting of the Montreal Veterinary Medical Association was held in the lecture room of the Veterinary College, 6 Union Avenue, Thursday evening, Dec. 14th, the Hon. president occupying the chair for the evening.

After the reading of the minutes of the previous meeting, and transaction of regular business, Mr. A. H. Hall reported a case—operation on the pig—which was successfully performed, and good results obtained. It also brought out considerable discussion from members present.*

Mr. J. R Hollingsworth read an essay on "The external Parasites of the Horse," describing the different species of the various parasites, vegetable and animal, their mode of living under their varying circumstances, such as occupying different parts of the animal body, their manner of propagation, tenacity of life, and their effects on the animal system, producing many forms of disease, external and internal, which in many cases are contagious to man and beast.

Prof. D. McEachran in his remarks stated that the chief difficulty in treating contagious diseases produced by these parasites was due largely to lack of attention and proper regard for cleanliness of surroundings. He also gave treatment in detail by which these troublesome diseases might be eradicated.†

The next essayist, Mr. J. McLeod, presented an elaborate paper, the subject being "Pleuro-pneumonia Contagiosa in Cattle." Firstly he discussed the early history of this highly contagious disease in the bovine species as early as 350 years B. C., also referring to the various outbreaks occurring within the past 180 years in Great Britian and the United States, and the enormous loss of stock and capital invested, and the great expense to the different countries in trying to suppress these epidemics. The origin of this disease is not definitely known. The period of incubation is indefinite, the diagnosis not always certain. The symptoms were described minutely and the general appearance and course of the disease, showing variations that take place in the various stages while running its course, as observed by methods at the disposal of the veterinary practitioner. He also gave an account of rules and regulations of quarantine as adopted and rigidly enforced in this country and others, and theories in regard to the commencement of disease and epidemics resulting therefrom. The general appearance, as shown by post-mortem examination, was outlined and pathological appearances minutely described. He also dwelt on the total unfitness of cattle suffering from this disease for consumption as food, and

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**Suggestion to reporters of proceedings.*—This paragraph is printed as sent to us without editing by elimination, as we usually have to do in such cases where we are absolutely ignorant of the nature of the operation—the pig may have been trephined to alter some psychological condition or it may have been gelded antiseptically—who knows? We are glad to edit hurried, rough copy, but we would like facts and data to work on.—ED.

†Prof. McEachran's mode of treatment would have been interesting information.

the liability of communicating the disease to man through the consumption of milk from dairy cows that might be afflicted. Methods of prevention by inoculation and processes for applying the different remedies were mentioned.

The subject being so important, and owing to its magnitude, it was decided to call a special meeting, which was held on Monday evening, the chair being occupied by Prof. D. McEachran, and subsequently vacated in favor of the president, Prof. Adami. The meeting was then open to its members for discussion on the above subject.

Prof. McEachran, in his opening remarks, stated the subject was a most important one to the veterinary practitioner in Canada to-day, on account of the embargo placed by England on our cattle, owing to errors in judgment of officials of the Imperial Government. He suggested the appointment of a Bacteriologist in England for the purpose of investigating bovine lung diseases with a view to the discovering by pathological and bacteriological investigations reliable means of arriving at correct dagnosis. The recently reported cases of pleuro-pneumonia contagiosa in England in cattle shipped from Canada to that country, have been investigated here, and no signs of this disease have been discovered. Portions of the lungs of two recently suspected animals have been examined microscopically by Prof. Eachran and Prof. Adami, their opinion being that it was not pleuro-pneumonia contagiosa, thus proving that this country is not affected by this disease.

The president addressed the meeting, stating that there was considerable uncertainty in dealing with pleuro-pneumonia contagiosa, and great care should be observed in diagnosing, especially for governments, thus saving trouble and expense. He advised slaughter of one animal suspected to arrive at a certainty. Prof. Adami then described minutely the appearances of the tissues and organs as presented on post-mortem examinations, describing the changes that had taken place as produced by the disease, also variations in color, size and markings. of lung tissue, etc., and the effect of diseases allied to it and their different changes as compared with this particular form of pneumonia.

Specimens were shown of genuine English pleuro pneumonia and compared with sections of what the British Veterinary Inspectors call Canadian lung, but which Prof. McEachran states would be more appropriately named transient pneumonia, as no such disease exists in Canada, and is only seen in animals travelling by railroads or an ocean journey.

After a prolonged and interesting discussion by the members, the meeting was finally adjourned for two weeks.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The California State Veterinary Medical Association held its annual meeting at the State House Hotel, Sacramento, Cal., Dec. 13th. 1893. Owing to the absence of the President the meeting was called to order by the Vice-President, Dr. H. F. Spencer.

Upon roll call the following gentlemen responded to their names, viz.: Drs. Maclay, McCollum, Spencer, Sr., Spencer, Jr., Orvis, Fox, Pierce, Williams, Hogarty and Archibald.

The minutes of the previous meeting were read and approved.

The Treasurer's report was then read. The report showed the Association to be in a rather straitened condition financially, owing to the large amount of money paid out in the past year on expenses incurred in legislative matters, etc. The report also showed that there was considerable money standing out, due the Association by members who are in arrears. On motion by Dr. Fox, the report was accepted.

The Secretary's report was then read. The report showed the Association to be in a flourishing condition numerically, and the roll call showed a large increase. The Secretary stated that he had had about a dozen applications for membership in the past month. He reviewed the work done by him in the past year ; he also reviewed in detail the work done in legislative matters by the Association in the past year ; also what the Association intended to do in the future. He complained of the stand taken by the majority of the members of the Association ; he also complained of the lack of assistance he had received; also the lack of interest taken by the members in making the meetings interesting and instructive ; he intimated that Association matters were not matters of dollars and cents or individual benefit, but were for the advancement of the veterinary profession and the protection of the public in the State of California. On motion of Dr. Orvis, the report was accepted.

The Board of Examiners reported favorably on the names of applicants for membership referred to them at last meeting, with the exception of I. B. Dalziel, of San Francisco. The Board said that this applicant was a veterinary dentist, and had not received a license from the State Board of Examiners, therefore was not eligible for membership. On motion of Dr. Fox, the Board's report was accepted, and upon motion by Dr. Pierce, the names of the applicants, as recommended by the Board of Examiners, were elected as active members of the Association.

The names of those elected are as follows, viz.: Dr. H. Lemker, Bakersfield ; Dr. A. Paterson, San Francisco ; Dr. G. F. Faulkner, Salinas; Dr. A. Bobins, San Francisco ; Dr. H. Fabbi, San Francisco ; Dr. H. A. Forest, Santa Cruz ; Dr. A. S. Williams, Marysville; Dr. H. R. Jackson and J. J. Hogarty, Oakland, and Dr. J. H. Eddy, Stockton.

The Board of Directors reported favorably and recommended the adoption of the proposed amendments to the Constitution and By-Laws referred to them at last meeting.

On motion of *Dr. Maclay*, the Board's report was accepted and the amendments as recommended by the Board were adopted.

On motion of Dr. Maclay, the Secretary was instructed to procure printed copies of the Constitution and By-Laws as amended, and that he be empowered to draw on the Treasurer for the amount necessary for same.

The Secretary then read a communication from Dr. R. H. Power, of Stockton, in which he stated that he desired to withdraw from the Association. On motion by *Dr. Fox*, Dr. Power's resignation was accepted.

Several communications from absent members were read by the Secretary expressing regrets for being unable to attend the meeting.

The following bills were allowed and ordered paid : J. J. Evans, $15.00, for printing certificates ; R. A. Archibald, $23.35, for expenses incurred by him as Secretary during the past year.

The Chair declared that nominations for officers for the ensuing year were in order, because at last meeting it was impossible to find a member who was willing to accept the office of Secretary. *Dr. Maclay* nominated *Dr. R. A. Archibald* for Secretary, whereupon on motion of *Dr. Orvis*, the nominations were closed.

The Secretary was requested to read the result of the nominations, which he did as follows :

President—Dr. H. A. Spencer, San Jose.

Vice-President—Dr. Ward B. Rowland, Pasadena

Secretary—Dr. R. A. Archibald, Sacramento.

Treasurer—Dr. D. F. Fox, Sacramento.

Board of Examiners—Drs. Maclay, Orvis, Egan, Rowland and Whittlesey.

Board of Directors—The several officers of the Association.

Dr. Maclay said that as there was but one nomination for each office, he moved that those nominated for the several offices be elected by acclamation. The motion was duly seconded by Dr. Pierce and carried.

Dr. Fox moved, seconded by Dr. Orvis, that the newly-elected President take his seat. Carried.

The newly-elected President upon taking his seat made a few appropriate and well chosen remarks. He thanked the members for the great honor they had done him and promised to do all in his power to make the meetings interesting and instructive, and in that way further the interests of the Association. He deplored the lack of attendance to the meetings and said he would leave no stone unturned to bring the members of the veterinary profession in the State of California together and have them work hand in hand for the advancement of the profession in this great and glorious State.

Under the head of Reading of Papers, etc., and discussions, the Secretary was called upon to read a few notes he had prepared, his subject being "The Excision of the Thyro-arytenoidean Ligament and a Portion of the Arytenoid Cartilage for Roaring."

Before reading his essay, the Essayist extended a cordial invitation to the members to witness the operation of Laryngotomy as performed by him at the Sacramento Veterinary Hospital at 9 A. M. next day.

The Essayist went on to describe his method of performing the operation ; he also noticed the chief differences between Prof. Fleming's operation and the operation as performed by him.

The paper was followed by an interesting discussion.

Dr. Orvis criticised the operation as performed by the Essayist in every detail. He said he was unwilling at that time to admit that the Essayist's method was preferable to the Fleming method ; he said he had performed the Fleming operation and had failed to find any of the bad results mentioned by the Essayist follow the operation; at the same time, owing to lack of experience in this matter, he was not prepared to condemn the operation as performed by the Essayist.

Dr. Maclay stated that the subject of Laryngotomy was one in which he had not had much experience, but he agreed with the Essayist in that Fleming's method had not been successful. He complimented the Essayist very highly on the originality of his remarks ; he said he believed that the matter could be more thoroughly discussed after they had witnessed the Essayist perform the operation.

The Essayist in defending his paper gave his reasons for believing his method of operating to be superior to the Fleming method. He produced a dried larynx of a horse and pointed out on the specimen where he believed Prof. Fleming erred when he performed the operation.

Dr. Orvis then arose and said, that if the operation, as performed by the essayist, was followed by beneficial results, he was willing to admit that it was superior to Fleming's method. He said this was a subject in which he was very

much interested, and that he would like to have it discussed by every member present.

Dr. Maclay said, that as no one present knew much about this operation it was useless to discuss it.

Dr. Orvis desired to know how we were to learn anything about this operation unless we discuss it, as it was very seldom we could procure a roarer to operate on ; also that we have to rely on these discussions to gain knowledge on this subject, as there was no literature on it.

After the subject matter had been discussed by most of the members present, he President closed with a few remarks. He agreed with Dr. Maclay, in that the subject could be discussed more intelligently after they had witnessed the operation. He said the essayist was to be commended for the originality of his revision of this operation, inasmuch as he has given us food for study and reflection, and which, if we determine to be the best mode of procedure, certainly reduces the magnitude of the operation, and simplifies it, also unquestionably makes recovery more rapid.

Dr. Maclay moved that the meeting adjourn to meet next day at 3 P. M. The motion was seconded by Dr. Fox and carried.

Second Day's Session.

On December 14th, at 9 A. M., the members of the California State Veterinary Medical Association assembled at the Sacramento Veterinary Hospital to witness the operation of laryngotomy, demonstrated by Dr. R. A. Archibald. He performed the operation after the method described by him in his essay. The members were unanimously pleased with his manner of operating, and all expressed a conviction that if the operation was followed by beneficial results, it was a superior method of operating than that described by Fleming.

The members then witnessed Dr. Orvis perform the operation of ovariotomy on a bitch. The members complimented the operator on the skilful manner in which he performed the operation

The meeting of the California State Veterinary Medical Association convened December 14th at 3 P. M. The President, *Dr. H. A. Spencer*, called the meeting to order.

Business was resumed by the reading of an interesting paper on Glanders by *Dr. C. B. Orvis.* He gave a description of the disease, and cited a number of cases which he believed had recovered from this fatal malady. He also advanced the idea that one attack of glanders rendered an immunity from a second attack ; he also stated that it was his belief that horses who apparently recovered and did not show any symptoms of the disease for one year, had fully recovered, and he would pronounce such a horse sound. He closed with the reading of an item from the *American Veterinary Review*, which gave an account of a spontaneous recovery in a horse, written by a Russian veterinarian.

Dr. McCollum said he did not believe glanders could be cured, and he cited a number of cases in support of his belief. He said in those so called cases of spontaneous recovery the germ lies latent in the animal's system, and will develop when the animal is exposed to hardships. He cited an instance of an animal who was supposed to have recovered, and who changed hands a great many times and finally, after a lapse of five years, died from acute glanders. He and a brother practitioner visited the different places the animal had been kept, and they found that said case was the cause of seventeen deaths among horses.

The Secretary said that although he was unwilling at the present time to say

that glanders could be cured, he was of the opinion that the few cases that would succumb to treatment would not compensate for the risk run in letting these so-called cases of spontaneous recovery run at large. He believed these cases to be more dangerous to a community than cases which showed more aggravated symptoms, as they were less liable to cause suspicion. He cited a number of cases to show that these cases were very dangerous to any community. He said this was a matter which would be advisable to keep from the public, as there were a great many ignorant people, who would take advantage of the knowledge of the fact that horses affected with glanders may recover and make it very unpleasant for those whose duty it was to condemn and destroy these cases.

Dr. Maclay said the time was come to have some one appointed to look after these matters, this person to be paid a salary sufficiently large so he could afford to do his duty. It was impossible for us to do our duty the way these matters are arranged at the present time In support of this statement he cited an instance, supposing a member of this Association is passing down the street and sees a horse affected with glanders tied to a hitching post. His duty as a man and citizen in that case would be to have the owner of the animal arrested. But what would be the consequence? He would lose the custom and friendship of that man and all his friends. The time is come to appoint one who could afford to make enemies in such cases.

The Essayist said he did not want to advance the theory that glanders was curable, but he mentioned these cases in order to provoke a discussion.

The Secretary asked the essayist if he had ever used mallein in these supposed recovered cases. He believed that if these cases that had been affected with glanders were subjected to a test with mallein they would develop the disease. He cited a number of cases in support of his idea.

The Essayist said he had never used mallein on these cases.

Dr. McCollum said that he believed that the use of mallein was invaluable in the diagnosis of glanders, especially in these mild cases.

Dr. Fox mentioned a case of glanders in a human being. A man in Monterey County, who refused to destroy some horses condemned by him, contracted the disease and died. He said he again examined the stock belonging to this man, and found a great number had contracted the disease since his former examination.

The Secretary also cited a number of cases in which human beings had contracted the disease. He said it was his belief that a great many people died from glanders that we never heard of, because there were so many physicians who would not recognize the disease when they saw it

Dr. Pierce related a case in which he showed how a single case may spread the disease in a community. He said gypsies and horse traders were the means of carrying diseases from place to place.

The President closed the discussion by relating a case of a black horse which was brought to his hospital showing a very mild case of glanders He used mallein and sent the animal home. Next day he visited the horse and found him nearly dead. The owner told him that the horse had been suffering terribly since he brought him back from the hospital, and that he had rigors every hour or so.

He also mentioned a case where he had condemned twenty-one horses on a ranch belonging to Mr. D. Murphy. Six months later he again examined the stock and found seven cases. After both examinations he had the premises thoroughly disinfected, the fences, barns, etc., were whitewashed. The disease confined itself to the working horses, and the horses running in the pasture had escaped the

ravages of the disease. The cause of this he believed was that the germ of the disease was distributed through the barns and stables only.

On motion of Dr. Fox the meeting adjourned to meet that evening at 7.30 P. M.

The meeting of the California State Veterinary Medical Association convened at 7.30 P. M.

The meeting was called to order by the President, Dr. H. A. Spencer.

The President then called upon Dr. Maclay to entertain the meeting with a paper

Dr. Maclay arose and said that his paper was entitled "The Relation of Animal Diseases to the Public Health."

Before reading his essay he stated that he had tried to make his paper as concise as possible, but that it was impossible to deal with the subject without writing an exhaustive treatise. He warned the members that it would take him about an hour to read his paper, and that if any of them were tired they had better leave before he began to read.

He went on to read his paper, which proved to be one of the most interesting and instructive papers that had ever been read before the Association. He mentioned the following diseases, viz.: Trichiniasis, Hog Cholera, Tænia Mediocanellata, Eczema, Epizootica, Tuberculosis, Anthrax, Anthracoid Diseases, Glanders, etc., giving a description of each disease, also detailing the different methods of preventing and eradicating them. He then went on and described the proper method of regulating sanitation, and protecting the public from the ravages of these diseases in the State. He reviewed the laws pertaining to these matters, pointing out where the laws were inadequate to control these matters. He said the Governor should be empowered to select a commission of veterinarians and lawyers to draft proper laws and regulations for the purpose of suppressing contagious diseases. A State veterinarian or inspector general should be appointed to look after these matters and enforce laws passed by the Legislature. The position should not, as is generally the case, be filled by those whose only recommendation is a political pull. It was true some of these diseases do not exist in the State at the present time, yet we never know when they may be introduced here, and that we should be prepared for them when they do come. He reviewed the condition of San Francisco, Sacramento, Oakland, Los Angeles and other large cities from a sanitary standpoint. He cited numerous instances where these diseases had been transmitted to the human family. He closed with a few remarks on the injurious effects to be got from eating the flesh of animals which had been killed while suffering from sporadic diseases such as Actinomycosis, Puerperal Fever, etc.

The President opened the discussion with a few well chosen remarks, he complimented the essayist very highly on the able manner in which he had treated this matter. He said it was a cause of grief that a paper so comprehensive, and so carefully prepared, should have been listened to by so few. He wished the matter could be laid before every legislator. He was glad of the privilege of listening to the paper. He hoped the day would come when the matter would be taken up by the press and public, and that they insist that proper legislation be enacted to regulate the sale of diseased meat and milk. We must expect bitter opposition as there were so many of lax morals interested in making a profit in the sale of diseased meat and milk.

Dr. McCollum said this was only one of a number of splendid and exhaustive

papers on various subjects that had been read before the Association. It was a magnificent production, and one on which the public should have its eyes opened. He had been at the slaughter houses and seen diseased animals slaughtered and hung up beside healthy carcasses, and he had seen calves from diseased cows killed, hung up, and sold in the market; also sheep whose bodies were covered with scabs. Yet he said, that if a member of this Association was to go to his local Board of Health, or County Supervisors, and ask them to appoint a competent man to look after these matters, they would imagine he was looking for a job, and he would get no credit or satisfaction for asking it for the sake of his fellow-beings.

The Secretary said he felt it his duty to compliment the essayist on the able and masterly manner in which he had treated on this subject, he also thanked the essayist for the pleasure he had received in listening to his paper. He intended before the meeting adjourned to move that the Association instruct the secretary to have copies of the paper printed, and a copy be sent to each and every member of this Association, also a copy be sent to the members of the State Board of Health and local Boards of Health. On the subject of tuberculosis he said, that from what he had read and what little experience he had had on these matters, he had come to the conclusion that tuberculosis was a disease peculiar to the bovine, and that the germ of tuberculosis had greater difficulty in maintaining itself in the human family than in the bovine.

In support of his theory he cited instances. Certain countries where the inhabitants did not use the meat and milk of cattle tuberculosis was an unknown disease, but after the introduction of cattle into these countries, the disease became common among the natives. He believed that civilization was the greatest propagator of disease known to him. You often see a healthy man and wife, with three or four children, one or two of these children are puny little beings, while the others are strong, healthy and robust. If you investigate the matter you will find, in every instance, that at the time the mother gave birth to these puny children she was so circumstantiated that she was unable to nurse the children, but brought them up on cow's milk, and it generally happened that she secured the milk from a Jersey cow, of which breed of cows he believed that 50 per cent. were affected with tuberculosis. He also believed that 25 per cent. of the dairy cattle in this State were affected with tuberculosis.

He mentioned a case where there were twenty horses affeeted with glanders dumped into the Sacramento River a short time ago, this being the source from which the people of Sacramento obtained their drinking water. He mentioned a case of anthrax he had seen a short time ago in which a horse had contracted the disease from drinking water from a stream that flowed through a slough, in which some cattle which had died from anthrax had been dumped some time before.

Dr. Fox cited a number of cases of glanders he had investigated when he was County Inspector for Monterey County.

Dr. Spencer, Jr., mentioned a case of glanders in a man.

Dr. McCollum mentioned a case where he saw a man suffering from trichinosis. He said it was one of the most loathsome sights he had ever witnessed.

There was considerable more discussion of this subject, all tending to the same point. That there should be some steps taken to prevent the transmission of these diseases to the human family.

Under the head of new business the Secretary moved, seconded by Dr. Fox, that the Secretary be instructed to have copies of Dr. Maclay's paper printed and that a copy of the same be sent to the members of the State Board of Health and

local Boards of Health, also to every member of the Association, and that an assessment of one dollar be levied on each and every member of the Association to defray the expense of printing same.

The motion was carried.

The President appointed the following named gentlemen to prepare essays and read them at the next meeting, viz.: Drs. Fox, Spencer, Jr., Whittlesey and Pieree. In connection with this the President made a few remarks. He said that when he appointed a member to read an essay, he expected him to do so, and he intended that he should read a paper.

On motion by Dr. Fox a vote of thanks was tendered the essayists for the able and masterly manner in which they had entertained the meeting.

There being no further business before the meeting, it adjourned to meet in San Francisco, March 11th, 1894, at the Baldwin Hotel.

R. A. ARCHIBALD, *Secretary.*

SACRAMENTO, Cal.

ANNUAL MEETING OF THE ONTARIO VETERINARY ASSOCIATION.

The annual meeting of this association was held in the Veterinary College, Toronto, on Thursday, Dec. 21st, 1893.

The President, Mr. John Wende, V.S., of Buffalo, N. Y., in the chair.

In his opening address Mr. Wende spoke with much feeling of his gratification at being placed in the honorable position he occupied, and he impressed on the members present the advantages of associations of the various professions, and indeed of all the callings in life, and of their meeting for mutual improvement and discussion.

The Secretary's, Registrar's, Treasurer's, and Auditor's reports were then received and adopted.

Mr. John Wende, read an interesting paper on pyo-septhæmia, commonly called "joint ill," in foals. He mentioned the different names by which it was known, and the various views as to its pathology, which had been held. He said that Bollinger, in 1873, first recognized it as omphalo-phlebitis. He fully described the symptoms, also the post-mortem appearances produced by emboli in the capillaries of the viscera. He mentioned that "pervious urachus," though frequent, was not invariably present. It is a very serious disease. He also gave the line of treatment he adopted.

Messrs. Crowforth, W. J. Wilson and others, took part in the discussion that followed.

In a discussion in which Mr. C. Elliott, Mayor Lloyd, Mr. Quinn and others took part, it was ultimately suggested that the Council of Acts should send representatives to attend at the examinations of the Ontario Veterinary College.

A discussion then took place on certain parties advertising as teaching veterinary dentistry, and granting diplomas as Veterinary Dentists. And a resolution was passed that a committee be formed to frame a resolution strongly condemning such parties for issuing their so-called Veterinary Dental Diplomas. The resolution to be presented to the Provincial Secretary and to the County Attorney, who were to be interviewed on the subject.

Moved by Mr. O'Neil, seconded by Mayor Lloyd, and carried, that a motion of condolence be forwarded to the widow of the late Mr. Hand of Alliston, an old and respected member of this association, expressing deep feelings of sympathy with her in her late sad bereavement.

The question of contagious pleuro pneumonia in cattle then came up. and a resolution was moved by Mr C. Elliott, seconded by Mr. W. J. Wilson, "That no contagious pleuro-pneumonia exists at the present time, neither has that disease ever made its appearance in the Province of Ontario."

This was carried unanimously.

Mr. John Wende gave a short account of his attendance at the United States Veterinary Congress at Chicago.

Moved by Mr. W J. Wilson, seconded by Mr. A. Crowforth, and carried, that all the directors read a paper at the next meeting of the association.

The following new members were duly elected: Mr. W. C. McGuire, D V.S., of Shawville, Quebec; Mr. A. Crowforth, V.S., of Lockport, N.Y.; and Mr S. T. Holder. V.S., of Mount Albert, Ont.

The officers for the ensuing year are: Mr. W. Burns, V.S., King, President; Mr. G L. Robson, V.S., Manchester, First Vice-President; Mr. H. Hopkins, V.S., Green River, Second Vice-President; Mr. C. H. Sweetapple, V.S., Toronto, Secretary· Mr. W. Cowan, V S., Galt. Treasurer.

Directors—J. Wende, D. Hamilton, J. F. Quinn, W Gibb, W. J. Wilson, S. T. Holder, A. Crowforth, and W. Steele.

Auditors.—Messrs. C. Elliott and J D. O'Neil.

Messrs. J. H. Wilson and J. D. O'Neil were appointed representatives to the Western Fair Association.

Mr. W. Cowan was appointed representative to the Central Farmers' Institute.

ERRATA.

Page 12, line 2, read Libbertz' for Tibbertz'.

Page 12, line 32, read side for ide.

Page 13, line 24, read Libbertz' for Tibbertz'.

Page 14, line 1, read 101.8 degrees for 108.1 degrees.

Page 16, line 24, read breeding for weeding.

Page 41, after Author's name, read V. M. D. for V. D. M.

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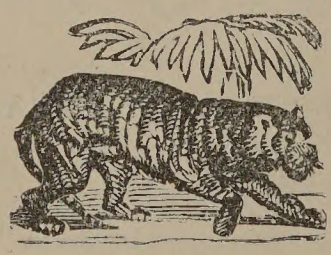

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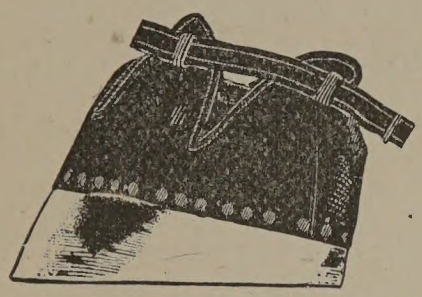

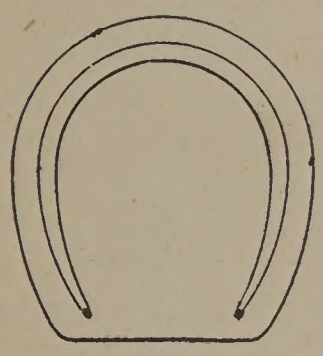

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FOURTH ANNUAL MEETING

OF THE

New York State Veterinary Medical Society

Vanderbilt House, SYRACUSE, N. Y.

January 9th and 10th, 1894.

PROGRAMME.

11 o'clock A. M., Meeting Convene.

1. Roll Call.
2. Reading of Minutes of last meeting.
3. Address by President R. S. HUIDEKOPER.
4. Secretary's Report.
5. Receiving Applications for Membership.
6. Report of Board of Censors.
7. Election of New Members.
8. Report of Committee on Legislation.
9. " " " Constitution and By-Laws.
10. " " " Publication.
11. " " " Prosecution.
12. " County Secretaries.
13. Miscellaneous Business.
14. Treasurer's Report.
15. Election of Officers.
16. Appointment of Committees and Essayists.
17. Reading of Papers.
18. Discussion of Papers.
19. Unfinished Business.
20. Vote on Place of Next Meeting.
21. Adjournment.

PAPERS.

DR. CLAUDE D. MORRIS, Pawling, N. Y. *Subject*—Professional Etiquette.

DR. C. J. WILLGANZ, Buffalo, N. Y. *Subject*—The Operation of Arytenectomy—"Laryngotomy."

DR. J. M. CHASE, Seneca Falls, N. Y. *Subject*—Open Joint.

DR. A. DRINKWATER, Rochester, N. Y. *Subject*—My private experience with Tuberculosis and Tuberculin.

DR. L. E. WILLYOUNG, Buffalo, N. Y. *Subject*—Comparative Ovariotomy.

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